

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Wing Joe
Organization:	BCHydro
Telephone:	604-528-3428
Email:	wg.joe@bchydro.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
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<input checked="" type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

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Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Many standards refer to this one thus this standard should be finalized and available at least 6 months or more prior to earlier than those that depend on it. In fact, it is unreasonable to expect one to accept standards (eg MOD-024-1) that commit them to an open ended , yet to be determined standard, (eg MOD-23-1).</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The purpose of this standard is misleading. One can not expect the equipment to be consistent with the model. It is the model that needs to be consistent with and to mimic the equipment. The purpose of this standard should be for the generator owners to provide accurate generators data. The standard need to recognize that the Gross and net real power for hydro electric unit are nearly identical and the auxillary load are insignificant.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Model should align with the equipment, not the reverse. A definition is required net and gross reactive power capability. {I have never encountered such terminologies.} Recognize that reactive requirements for auxiliary load for hydroelectric plants are insignificant and any such requirements part and parcel of the load on the transmission system.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Model should align with the equipment, not the reverse. It is unreasonable to expect the Generator Owner to verify the data the transmission planner use in their model of the system. The only obligation that the Generator Owner should bear is to provide the necessary equipment info to the transmission planner, who then includes that equipment in his/her system studies.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It may be unreasonable to expect that generator owners (or anyone else) in the electric utility industry conduct test to determine how the unit speed and real power output changes in response to frequency transients.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

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Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Karl Kohlrus
Organization:	City Water, Light & Power
Telephone:	217-321-1391
Email:	kkohlrus@cwlp.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
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<input type="checkbox"/> NA - Not Applicable	

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

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Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Testing of voltage regulator controls, speed/load governor controls and excitation systems is new and should be field tested.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Generators should not be required to test their machines over the limits specified in planning models. For example, if the transmission owner/operator specifies minimum reactive capability of 0 MVAR is all that is required, the generator should not be required to test at leading power factors. Operation of units in the underexcited leading power factor mode can lead to instability and voltage problems. These leading power factor tests should only be required if there is a system need to operate at these levels.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>One test per year should be all that is required with the generator owner able to provide extrapolated monthly capabilities based on expected ambient conditions. The standard should specify the minimum test duration for steam units, combined cycle units, simple cycle units, and hydro units.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-027-1 Verification and Status of Generator Frequency Response	II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system	Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices	III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices	Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There should be a provision that AVR should be able to be turned off if the machine is operating at its limit. Prior to the August 14, 2003 blackout, Eastlake 5 was operating at maximum real and reactive output. Since it was in AVR mode, it tripped when it tried to produce even more VARs than it was capable of producing when the voltage declined further.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	11/2006	Testing of voltage regulator controls, speed/load governor controls and excitation systems is new and should be field tested.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The numbering system of the new standards is confusing. It needs to be revisited.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	John Harris
Organization:	Load Forecasting Working Group (Planning Committee)
Telephone:	(919) 546-6011
Email:	john.harris@pgnmail.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC	
<input checked="" type="checkbox"/> NA - Not Applicable	

Group Comments (Complete this page if comments are from a group.)

Group Name: **Load Forecasting Working Group (Planning Committee)**

Lead Contact: John Harris

Contact Organization:

Contact Segment:

Contact Telephone: (919) 546-6011

Contact Email: john.harris@pgnmail.com

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Additional comment: deletion of standard II.D.M3 is acceptable because its requirements have been merged with MOD-016-0.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input checked="" type="checkbox"/> Do not agree.</p>	<p>Additional comment: Reliability results from having adequate resources (generation and transmission) to serve anticipated load. Future anticipated load is, by definition, uncertain because of key uncertainties of the forecast. Forecast uncertainty automatically translates into uncertainty of the generation and transmission resources being adequate. Assuring consistency between actual and forecast demand is one way to judge if the forecast is reasonable. While the actual and forecast demand (including DSM) is addressed in standard MOD-016, the statement that the consistency of actual and forecast demand does not impact overall reliability of the interconnected electric transmission grid is inconsistent with the working definition of overall reliability.</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The II.D standard directly addresses the impact of forecasting on overall reliability. New generation and transmission resources are built because of the level and timing of anticipated demand. Standard II.D.M1 through II.D.M12 address the consistency between actual and forecast demand as one way of judging whether anticipated load, and therefore the need for future generation and transmission capacity, is reasonable and adequate. Demand forecasting is uncertain because many of the factors affecting anticipated load (e.g., future economic growth, weather, conservation investment, industrial structure, locational employment, international competition, etc.) are not known with absolute certainty. Because the standards are to ensure overall reliability of the bulk electric system, and because resource reliability depends in part on forecasts of anticipated load, it is recommended that load serving entities be required to submit with their annual demand and net energy for load forecasts a brief description and discussion of the key uncertainties of their forecasts. A brief summary of the key demand uncertainties by each load serving entity will provide needed background for judging the reliability of the forecast. Currently, no load serving entity is required to provide any uncertainty assessment with their demand and energy projections. The essence of ensuring future reliability requires a current assessment of key uncertainties and how such key uncertainties have been incorporated into the forecast of anticipated load and energy. Because of workloads and other priorities of load serving entities, we emphasize the word 'brief' used in the above request for describing and discussing key forecast uncertainties.

The requirement in II.D.M4 (4) that annual peak demand and net energy for load be provided for 'at least 5 years and up to 10 years' is inadequate. Coal-fired and nuclear generation resources are now being discussed as substitutes for gas-fired generation due to anticipated natural gas pricing. Coal and nuclear resources have much longer planning, pre-engineering, and construction times that require longer forecast horizons than 5 years. Accordingly, the II.D.M4(4) requirement should be changed to 'at least 10 years'.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)
 Group Name: **SERC EC Planning Standards Subcommittee (PSS)**
 Lead Contact: Kham Vongkhamchanh
 Contact Organization: Entergy Services, Inc.
 Contact Segment: 1
 Contact Telephone: (504) 310-5812
 Contact Email: kvongkh@entergy.com

Additional Member Name	Additional Member Organization	Region*	Segment*
David Till	TVA	SERC	1
Brian Moss	Duke Power Co.	SERC	1
David Weekley	MEAG Power	SERC	1
Clay Young	South Carolina Gas & Electric Co	SERC	3
Art Brown	SCPSA (Santee Cooper)	SERC	1
Pat Huntley	SERC	SERC	2
Bob Jones	Southern Company Services	SERC	1

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Recommend that Level 3 non-compliance be made "not applicable" and the current Level-3 description be moved to Level-4 as 2.4.3.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Recommend that R5 be revised to read "A requirement that each Load-Serving Entity update its actual and forecast customer demand values at least once each year according to a schedule."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard is written from the viewpoint that all data from Disturbance Monitoring Equipment is useful in enhancing models. Some data is useful and some is not. This standard needs major wording changes as follows:</p> <p>Purpose: To use recorded disturbance data when appropriate in an attempt to validate and enhance system models.</p> <p>R1. The Planning Authority and Transmission Planner shall each use any appropriate recorded data from Disturbance Monitoring Equipment as required in PRC-002 R3.1 and PRC-002 R3.2 to validate and enhance steady-state and dynamic models.</p> <p>M1. The Planning Authority and Transmission Planner shall each provide evidence that if any useful recorded disturbance data was obtained, it was used to assess its steady state and dynamic models. This evidence shall be provided to the Regional Reliability Organization within 30 calendar days of a request.</p> <p>2.2. Level 2: Useful, available recorded data.....</p> <p>2.4. Level 4: Useful, available recorded data.....</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Unless specified in another Reliability Standard, a requirement should be added to require generator owners to notify the RA, BA, and/or TO as appropriate as soon as a non-functioning or blocked speed/load governor controls has been identified.</p> <p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data was provided and was complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data was provided and was complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data was provided and was complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data was provided and was complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>As written this Standard states that disturbance data from installed devices is necessary to determine causes of disturbances, and is necessary to develop, verify and update system models. Recommend softening this position with alternate wording (i.e., ‘valuable’, ‘useful’, or ‘helpful’ may be substituted for ‘necessary’).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of this standard is significantly greater than was in the original. The cost/benefits of including these additional items should be considered. Any retained item should be clarified as to what is actually required.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The requirement to annually update the databases is in both R1 and R2. Suggest R2 be changed go read: "The Regional Reliability Organization shall provide the current UVLS database to NERC within 30 calendar days of a request."</p> <p>Recommend first sentence of R1 be changed to read: "The Regional Reliability Organization shall establish requirements for, maintain, and annually update a UVLS program database."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In response to the question in the blue box as to whether UVLS and UFLS standards should mirror each other, the PSS does not believe that the UVLS standards need to exactly mirror the UFLS standards. The PSS recommends that no regional program standard development be pursued via the SARs process. UFLS and UVLS are very different in the system problems they are designed to arrest. UFLS is necessary across the Interconnections since frequency deviations propagate throughout. Voltage problems are more localized phenomena. Therefore, to attempt to mandate Regional UVLS requirements would not allow flexibility to implement prudent solutions for systems.</p> <p>Change 4.4 to read: "Load-Serving Entity that operates a UVLS program."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Add the word "program" to the end of 4.1, 4.2, 4.3, and 4.4.
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Insert the following at the end of the first sentence in R2: "as stated in PRC-023 R1."

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Suggest that R6 be deleted since all of the R6 requirements are included in R7. The PSS agrees with moving R9.1 and R9.2 to VAR-002.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>Suggest that R2.1 be deleted. The requirements of R2.1 are included in R2.2.</p> <p>M1 should refer to 5 business days instead of 3 calendar days (typical Standards practice).</p> <p>The "areas" referred to D.2.2 and D.2.4.2 needs to be clarified.</p>
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>R5 – replace “excursions in voltage, frequency, and real and reactive power output of a generator” with “excursions in voltage and frequency.”</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-023 through 027	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The effective date of the old II.B related standards should be moved to a later date. Because the requirements are contingent upon the development of RRO procedures, NERC should allow the RRO sufficient time to develop or revise their regional procedures to reflect the revised Reliability Standards. Field testing will be required to verify that the new RRO procedures are appropriate. The effective date of these standards should be determined after field testing.
PRC-019	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The requirements of this standard are not clear. They appear to require an enormous amount of work which may not be practical. Therefore, field testing is recommended.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The PSS recommends individual balloting of these standards.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Karl A Bryan
Organization:	US Army Corps of Engineers
Telephone:	503-808-3894
Email:	karl.a.bryan@usace.army.mil
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>I think there also needs to be a requirement for the transmission operator to prove that the system restoration plan works as well as to prove that the blackstart generators are actually capable of energizing a line and picking up a load. My experience has been that blackstarting a generator is the easy step, it is picking up the transformer and transmission line charging currents that cause a generator the most problems.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	This standard makes the verification of generator model data easier for the generator owner as well as economically feasible. The cost for retesting is hard to justify when very little equipment changes have occurred on your system.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The generator data should be sent to the Transmission Service Provider so that they can check the data for useability in the system models. Once the data has been checked by the TSP, the TSP should be the one providing the data to the RRO. This builds into the
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

General Comments Related to VAR-001-1, VAR-002-1, VAR-003-1 Standards

The VAR series of NERC Standards: VAR-001-1, VAR-002-1, VAR-003-1 on Voltage and Reactive Control, Generation Operation and Planning Assessment are one of the most important of the NERC Standards and touch upon one of the most difficult topics in system planning and operation today, namely to ensure that system reactive resources are “adequate” or “sufficient” to plan and operate the system so that voltage stability is ensured.

The three standards collectively have failed to:

1. Properly recognize, define and quantify “adequate” or “sufficient” reactive resources;
2. Describe how these are measurable in real-time and so indicated to the operator;
3. Differentiate the special requirements for “emergency” operation that require special approaches in real-time versus “normal” states of the system.
4. Make it clear what are the precise roles of the various entities: Transmission Operators/Purchasing-Selling Entities, Generator Operators and Transmission Planner/Planning Authority to ensure supply of adequate reactive resources, particularly during emergencies.

Given the importance of voltage control and reactive reserves and the role it played in the last three major blackouts : the July and August 1996 blackouts in the Western Interconnection and the August 2003 blackout in the Eastern Interconnection, it behooves NERC to seriously examine the adequacy of its VAR standards in addressing a difficult and contentious issue. Numerous smaller events also illustrate the effects on reliability of MVAR deficiency on a smaller scale than the larger blackouts. Indeed the rules and approaches in recognizing the importance and difficulty of reactive power assessment and supply need to be reassessed. FERC has recognized this, has taken the lead, and issued a comprehensive report which is the best first step in addressing the real MVAR requirements that the system needs to have to operate reliably and efficiently and the need for the industry/market to realize its importance. Now it is NERC’s turn to likewise recognize the crucial role of voltage control and reactive power for voltage stability and include special requirements in NERC Standards. (The term MVAR is used in these comments to mean ‘reactive power’).

Emergency Conditions need Special Requirements

The proposed draft of NERC Standards VAR-001-1, 002-1, and 003-1 essentially describe basic “good utility” practices that are applicable and generally work well when operational conditions are “normal” including regular N-1 contingencies. These requirements are such that any Transmission Operators/Purchasing-Selling Entities, Generator Operators and Transmission Planner/Planning Authority could meet under those conditions. The standards require that: “Each Transmission Operator shall acquire

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“sufficient” reactive resources within its area to ensure “adequate” voltage levels under normal and Contingency conditions.” (From R2 of VAR-01-1, quotation marks added). When a blackout occurs, the involved entities can take refuge in the lack of specificity of the standards to defend their case. Adding the words “and if necessary load shedding” does not make the standard any stronger, because the necessary specificity to the operator to determine the circumstances when to resort to load shedding is not provided. Load shedding decisions cannot be taken lightly. If delayed too long, conditions could lead to blackouts. If done too early, the operator will face the inevitable recriminations and pay for potential liabilities. Hence the Standards should have special provisions for operation in emergency conditions. This is explored further later.

Dynamic vs. Static Reactive Power Sources Must be Recognized in the Standards

Static reactive power is supplied by static devices such as shunt or series capacitors, and the capacitance of the lines. Dynamic reactive power is supplied by dynamic machines such as synchronous generators or condensers. Static var compensators because of automatic controls are also classified as ‘dynamic’.

The factors of location, MVAR quantity, quality i.e. static or dynamic, and the time, season, and system operating conditions, all directly affect the ‘adequacy’ and ‘effectiveness’ of reactive power reserves.

Shunt capacitors are a cheap source of MVAR supply. It works well when voltages are normal. However, the quantity of MVARs supplied by shunt capacitors is directly proportional to the square of the voltage. Hence as the voltage plunges, so does the effectiveness of shunt capacitors. E.g. at 90% voltage, the shunt capacitor will put out only 81% of the rated MVARs. This becomes more and more critical as loads peak and voltages deteriorate in voltage instability prone areas during emergency conditions. As line flows increase, MVAR flow through lines increase as voltages decrease and MW losses increase. This gets worse as key lines or generators trip in the MW and/or MVAR deficient area. The end comes usually suddenly as voltage drops (at 80% voltage, the shunt capacitor MVARs is just 64% of rated) and may likely be controlled only by load-shedding.

The total of the static and dynamic capability should exceed the total MVARs ‘absorbed’ by the load and the lines and transformers in the area of concern by an ‘adequate’ margin (also called the reserves). The ‘margin’ computation is made for a variety of contingencies. The difficulty is in exactly computing what the ‘reserves’ should be and what the static and dynamic parts should be that will be ‘adequate’ for various operating conditions. The split between the required Dynamic and Static MVARs has to be computed on a case by case basis for critical areas. Several empirical methods exist to determine this split, but have proved inadequate during post-mortem studies of blackouts.

There are analytical methods and tools to determine reactive power MVAR reserves. Static methods use computations that provide MW Power-Voltage and MVAR-Voltage curves (also known as PV and QV curves). Dynamic methods use stability programs

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with special provisions for long runs (minutes rather than seconds). These VAR Standards *do not even mention dynamic and static VARS* or these analytical tools.

Locational Decisions and Identifying Potential Voltage Instability Areas

MW power is transmitted from generators to loads through the transmission network. The network voltages must be maintained by MVAR supply for power to flow. As loads increase, flows through the lines increase, voltages decrease and MW and MVAR losses increase. This gets worse as key lines or generators trip in the general area. (When this gets into an uncontrollable repetitive cycle, we have 'voltage instability' as voltages collapse). To support voltage in an area, the reactive power is best supplied close to where the system voltage sags are the greatest, or where a reactive power 'deficiency' has been identified. Transmission Operators should be required by the standards to identify all potential voltage instability areas, determine the critical buses and the potential contingencies that could lead to voltage instability. This may not cover all conditions but will narrow the list to critical ones. Operating instructions should identify optimum location(s) and the amount of MVAR needed to maintain voltages for a variety of contingencies and operating conditions.

It should be noted that the power system is a continually growing dynamic system in terms of loads, and generators. Many areas have experienced problems as generators retire and are not replaced by new generation, or are replaced by cheap, remotely located generation supply.

Planning Vs Operation Scenarios

In the planning standards similarly, it should be required to identify all potential voltage instability areas and the optimum location(s) and the amount of MVAR needed to maintain voltages for a variety of contingencies and operating conditions. The answers may be quite different in planning studies which may show adequate MVAR reserves in generators. But in a real-time operation situation where generators are bid into the market on a MW basis only, the numbers may be quite different. The MVAR 'capability' may well exist in remote generators, but this is different from the actual 'local capability' that is required as system conditions get worse.

Voltage Control Schedules are Usually Prepared Ahead of Time– How Applicable are they in Real-Time?

Questions arise on how good is the Voltage Schedule as it relates to real-time if it is prepared ahead of time. Wouldn't the system conditions dictate what the schedule is in real-time? How will a-100 generators be notified to change their voltage settings if suddenly severe contingencies occur that upsets planned schedules?

Voltage schedules relate to operation practices and are set by operation-planning studies that result in a 'voltage profile' that should be maintained. These schedules generally follow the general directions of flow from generation 'areas' to load 'areas'. (For e.g. in

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WECC, the Northwest would have voltages at 110% and the southern buses in California would have voltages close to 100%.) The Interconnection however is comprised of many control areas which may have different policies in maintaining its required 'voltage profile. Standards should require that they coordinate with other control areas or regions because in real-time, physics ignores man-made borders. Blackout investigations often show that conditions outside sometimes influence the outcome inside the area. Real-time operation has additional road blocks as seams issues make it impossible to view conditions outside the control areas. Standards should encourage a wider view of the system and the possibility of sharing data across systems.

Generator AVRs required to maintain a specified voltage setting

Ensuring a required set-point voltage on generator AVRs is the best way to ensure that voltages will be maintained at the generators – and hence at the EHV bus. Operation during emergency conditions should be specified. Automatic over-excitation and under-excitation limiters in generator AVRs ensure that MVAR limits are not exceeded during operation. The practice of power factor control must be discontinued for generators which must be under continuous automatic voltage control.

The primary function of the generator AVR (Automatic Voltage Regulator) is to regulate generator voltage for the exciter to supply MVARs. Other features available in AVRs allow for 'reactive current compensation' or regulation that takes into account the generator-transformer impedance, or to allow MVAR sharing of many generators in the plant. 'Joint control' of many generators can set the voltage at the HV side as the reference, but will ensure that each unit provides MVARs in proportion to its capability curve.

Difficulties to the Operator in Recognizing Impending Voltage Collapse

Studies of the 1996 blackouts in the Western Interconnection showed that the MVARs supply from the system shunt caps fell off rapidly towards the end, and generators were not able to supply required MVARs made worse by generator tripping in critical areas. Operators had difficulty in recognizing that a collapse was imminent on July 2, 1996 from observing the voltages on their voltmeters because recordings showed that the voltages held up well until the last 30 seconds. Holding up voltages till the last is a characteristic of shunt capacitors. The quantity of MVARs supplied by shunt capacitors is directly proportional to the square of the voltage, hence as the voltage plunges, so does the effectiveness of shunt capacitors. In general, the effect of non-availability of reactive power is non-linear in nature as seen in MW Power-Voltage and MVAR-Voltage (PV and QV) curves and is difficult to predict.

The conclusion is that standards should not emphasize only adequate voltage profiles as a requirement without mentioning the very necessary dynamic reactive power to avoid voltage collapse and a measurement to its adequacy.

Difficulty in Real-Time Measurement of ‘Adequate’ Reactive Reserves.

If the static PV-QV calculations state that there should be for e.g. 500 MVARs of reserves at a specific 500 kV bus, the difficulty is to measure it practically whether such an ‘adequate’ reserve is actually available at that bus.

Measurement is therefore practically related currently to whether generators plus capacitors plus SVDs in an ‘area’ cumulatively have adequate MVAR reserves. The area will need to be ‘bounded’ for such a definition to work.

The conclusion is that a ‘theoretical’ calculation is possible, but a practical measurement or quantification of ‘adequate’ reserves in real-time *at a bus* is impractical. The best approach that the industry has at present is to calculate in real-time through state-estimated solutions and ensure ‘adequate’ reactive reserves are available in operation for critical areas during emergencies.

An Important Topic not touched upon in the NERC Standards – Reliability and Optimal System Operation

The Security Constrained Optimal Power Flow (SCOPF) program is the best tool there is today that integrates economics, generation dispatch and transmission power flows considering the reactive power and voltage constraints of the system. Unfortunately, currently most ISO market systems, except for the NYISO (and a future CAISO), that run LMPs (Locational Marginal Prices), use only DC SCOPF Programs in dispatching generators that do not consider reactive power and voltage constraints of the system. DC SCOPF programs assume that voltages are equal to 1.00 pu at all buses. Hence units will always be dispatched optimally for MW only. This is understandable because the market currently focuses on MW and not MVAR.

It is therefore very advantageous that AC Security Constrained Optimal Power Flow (SCOPF) Programs be used instead of DC SCOPF programs by Market Systems in dispatching generators in order to include reactive power and voltage constraints of the system.

Whether the new Standards should recognize these issues in market systems and make it possible to integrate optimal dispatch of MW and voltage control/reactive power dispatch of MVARs will be likely opposed strongly by those who use DC OPF programs. But this is an opportunity to get things right and efforts should be made in that direction.

Conclusions and Recommendations

A new SAR is required to address the many points raised in these comments. It is clear that the VAR series of NERC Standards: VAR-001-1, VAR-002-1, VAR-003-1 on Voltage and Reactive Control, Generation Operation and Planning Assessment do not

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address the critical and practical requirements of voltage control and reactive power under emergency conditions.

These standards must address voltage instability, arguably the most difficult phenomena in systems operation today. These important NERC Standards to ensure that system reactive resources are “adequate” or “sufficient” to plan and operate the system so that voltage stability is ensured should therefore not have imprecise or vague requirements.

Les Pereira P.E.

May 27, 2005

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Ronnie Frizzell	
Organization:	Arkansas Electric Coop. Corp.	
Telephone:	501-570-2433	
Email:	rfrizzell@aecc.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input checked="" type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>B R1 -- remove applicable, each plan should address all of the elements of EOP5. if they don't apply simply state it.</p> <p>R12 -- By deleting R12 the requirement to have the unit available is lost. I know that it is not the TOs responsibility to make generation available, however, the TO does need to know that black start units are available if needed. Maybe this requirement should be in another standard</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>I oppose deleting the Planning Authority from this standard. There are cases where the RRO is not the Planning Authority and vice versa. This standard is to require the data for modeling purposes. The RRO is not necessarily the one building the models.</p> <p>Instead of a translation of the IID.M2 it looks like the drafting team decided to completely rewrite MOD-16. The translation goes way beyond the requirement to ensure no data is omitted or counted multiple times.</p> <p>The measures should be swapped. M2 measures R1 and M1 measures R2. Renumber M1 to M2 and M2 to M1 and reorder them.</p> <p>I disagree with the comment that it is not necessary to state requirements in other standards. This is done for reference to ensure that the requirements of one standard that apply to portions of another standard are accurate and not over looked by the party responsible for compliance. Therefore I disagree with the deletion in R2</p> <p>D 1.1.1 compliance monitoring should include the RRO for monitoring the PA.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R2 should include the Planning Authority. refer to Functional Model, Planning Authority, 1c.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R2 should include the Planning Authority. refer to Functional Model, Planning Authority, 1c.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R2 should include the Planning Authority. refer to Functional Model, Planning Authority, 1c.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R3 should include the Planning Authority. refer to Functional Model, Planning Authority, 1c.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 & R2 should include the Planning Authority. refer to Functional Model, Planning Authority, 1c.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The proposed date should be changed to November 1, 2005 to be consistent with other standards.</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>4.2 Version 0 drafting team recognized that there are generation owners that owned relays that were involved in the protection of the transmission system. I disagree with the proposed deletion.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Numbering in section 4 needs to be corrected to 4.1, 4.2 etc instead of 1.1, 1.2.</p> <p>1.2 Version 0 drafting team recognized that there are generation owners that owned relays that were involved in the protection of the transmission system. I disagree with the proposed deletion.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IIICM8 -- calls for the coordination of controls with the capabilities and relays of the generating unit. The proposed purpose changes the perspective of the standard from one of planning (coordination) to one of operations ("in real time"). Was this the intent? If so the requirements still imply coordination, which I believe to be the real intent. All this to say the phrase "in real time" causes me heartburn.</p> <p>The GO or GOP may do the coordination Generator Operator should be added to the Applicability section.</p> <p>R1 -- what is the reasoning that a generator would be exempt? This is a direct translation but is it relevant?</p> <p>why does the generator owner need to report this to NERC? Again this is a direct translation but is it necessary since the GO/GOP report to the RRO?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.3 -- was not in the original standard and should not be included. The simulation of the event will only be as good as the assumptions used and will probably only result in best guess.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	I think the requirement for developing a methodology and criteria for the assessment reactive resources should be done on a regional basis and therefore should be the responsibility of the RRO.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
I.D.M2 – Coordinate and optimize the use of generator reactive capability	Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Abstain -- I am not convinced that this standard should be dropped. My concern is that coordinated planning continue between generation and transmission. I disagree with the first reason for the deletion of the standard. Generators have no obligation to meet TPL - 01--04. The burden is on the TP and PA, if a generator is not willing to cooperate and provide data then holes will form.
I.I.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies	Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	I agree that this may not be necessary as a reliability, however, the a companies data should be reported consistantly. Maybe this is one for NAESB.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

1. It is my understanding that the compliance group determines the levels of compliance. Did the changes in these sections of the drafts come from the drafting team or the compliance group? If they came from the drafting team will the compliance group review and possibly rewrite these sections?

2. In many of the standards the old standard and measures are referenced in parenthesis. Is it correct to assume this was done to help with the mapping process and will be removed in the final draft?

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	John Horakh 06-03-2005
Organization:	MAAC
Telephone:	609-625-6014
Email:	john.horakh@conectiv.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input checked="" type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>OK to delete Planning Authority</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Needs wording changes. See Word Document MOD-022-1_JHorakh_Markup</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Good translation. However, the proposed effective date of November 1, 2005 is unrealistic. The RRO may not have all the required procedures established, or written and formally approved, or made available. An effective date of one year beyond Board approval is more realistic
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Good conversion from prescribed testing to verification. However, the Generator Owner may require significant time beyond November 1, 2005 for the initial verification, depending on the RRO requirements. An effective date of one year beyond Board approval is more realistic

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Good conversion from prescribed testing to verification. However, the Generator Owner will probably require significant time beyond November 1, 2005 for the initial verification. An effective date of two years beyond Board approval is more realistic
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Good conversion from prescribed testing to verification. However, the Generator Owner will require significant time beyond November 1, 2005 for the initial verification. An effective date of five years beyond Board approval is more realistic

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Good conversion from prescribed testing to verification. However, the Generator Owner will require significant time beyond November 1, 2005 for the initial verification. An effective date of five years beyond Board approval is more realistic</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Delete (not) in last line of D.2.2, delete D.2.4.1 numbering, not needed</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>OK to add time synchronization to complement reference in PRC-002</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Purpose should be: To insure that a generator's reported capability is coordinated with its voltage regulator controls and limit functions and protective relays. In R1.4, replace (secure) with (coordinated)</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>It does appear there is a need for a Regional UVLS Program. Otherwise, it is difficult to coordinate individual UVLS programs</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Delete R1.3, because the list is (at a minimum). Eliminate R1.4 numbering, just part of R1. Delete (those entities responsible for the reliability of the interconnected transmission system) in R2, M1, M2</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>OK to move R9.1 and R9.2 to VAR-002</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>OK to move R9.1 and R9.2 to VAR-002</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The need to have a balance between static and dynamic reactive power resources is stated in the Purpose. The need should also be explicitly stated in the Measures
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	This a not really a VAR standard, it covers frequency, as well as voltage, excursions. Could be a TOP or PRC standard

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Very difficult to tell when capability has been (optimized)</p>
<p>I.I.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Maybe this should be a NAESB Business Standard</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Dynamic demand characteristics are, of course, modeled in dynamic simulations. As per proposed standard MOD-022 (Use of Disturbance Data to Develop and Maintain Models), dynamic demand characteristics can sometimes be refined by adjusting them to achieve simulation results that match actual disturbance data</p>
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	A NERC Guide on ALR might be appropriate
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Standard MOD-022-1 — Use of Disturbance Data to ~~Develop and~~ Maintain Models

Draft: April 21, 2005 Page 3 of 4 Proposed Effective Date: November 1, 2005

A. Introduction

1. **Title:** Use of Disturbance Data to ~~Develop and~~ Maintain Models

2. **Number:** MOD-022-1

3. **Purpose:** To ensure that system models remain current by using recorded disturbance data.

4. Applicability

4.1. Planning Authority

4.2. Transmission Planner

5. **Proposed Effective Date:** November 1, 2005

B. Requirements

R1. The Planning Authority and Transmission Planner shall each use recorded data from Disturbance Monitoring Equipment as required in PRC-002 R3.1 and PRC-002 R3.2 to ~~develop, maintain, and enhance~~ steady-state and dynamic models. Recorded data shall be compared to results from model simulations of the same conditions. Needed model changes shall be identified and incorporated in the models.

C. Measures

M1. The Planning Authority and Transmission Planner shall each provide evidence that recorded disturbance data was used to ~~assess-maintain~~ its steady state and dynamic models. Evidence shall be provided that recorded data was compared to results from model simulations of the same conditions, and that needed model changes were identified and incorporated in the models. This evidence shall be provided to the Regional Reliability Organization within 30 calendar days of a request.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Reliability Organization

1.2. Compliance Monitoring Period and Reset Timeframe

One calendar year

1.3. Data Retention

The Planning Authority and Transmission Planner shall retain disturbance simulation results and any updates-changes they applied to steady-state and dynamic models as a result of those

simulations for the current and last model update periods.

The Compliance Monitor shall retain any audit data for three years.

1.4. Additional Compliance Information

The Planning Authority and Transmission Planner shall demonstrate compliance through the following method, as determined by the Compliance Monitor - self certification or audit (periodic, as part of targeted monitoring or initiated by complaint or event).

2. Levels of Non-Compliance

2.1. **Level 1:** Not applicable

2.2. **Level 2:** Available recorded data from Disturbance Monitoring Equipment of system disturbances that occurred since the most recent model update was used in-compared with results from steady state and/or dynamic simulations of the same conditions, but needed model changes identified by the simulations were not incorporated in steady-state and/or dynamic models.

2.3. **Level 3:** Not applicable

Standard MOD-022-1 — Use of Disturbance Data to Develop and Maintain Models

Draft: April 21, 2005 Page 4 of 4 Proposed Effective Date: November 1, 2005

2.4. **Level 4:** Available recorded data from Disturbance Monitoring Equipment of system

disturbances that occurred since the most recent model update was not ~~used in~~ compared with results from steady state and/or dynamic simulations of the same conditions.

E. Regional Differences

None identified.

Version History

Version Date Action Change Tracking

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **NERC Interconnection Dynamics Working Group**

Lead Contact: Bob Cummings

Contact Organization: NERC

Contact Segment:

Contact Telephone: 609-452-8060

Contact Email: idwg@nerc.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Navin B. Bhatt	American Electric Power	ECAR	
Jose Conto	ERCOT	ERCOT	
John W. Shaffer	Florida Power & Light Co.	FRCC	
Mahendra C. Patel	PJM Interconnection, L.L.C.	MAAC	
Franklin D. Bristol	American Transmission Co., LLC	MAIN	
Jason J. Weiers	Otter Tail Power Company	MRO	
Philip Tatro	National Grid USA	NPCC	
Philip B. Winston	Georgia Power Company	SERC	
Donald D. Taylor	Westar Energy	SPP	
Les Pereira	Northern California Power Agency	WECC	
Joseph M. Burdis	PJM Interconnection, L.L.C.	MAAC	
Carson W. Taylor	Bonneville Power Administration	WECC	
Robert W. Cummings	NERC	NERC	

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The title should be: System Restoration, because the standard covers more than just the plan, it includes the policy portions in R11. — R1-R10 Restoration Plan – needs better organization, change the order to: Plan elements, Plan Coordination, Plan validation, Plan Review & Update, and Plan Training. — Add applicability to Transmission Planners and Planning Authorities.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>See attached file: IDWG Comments on DME Standards 6-2-05.doc</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Reworded R1.2 to read: Acceptable methods for model and data verification, including but not limited to manufacturer data, commissioning tests, performance tracking, simulation, analysis, field verification of equipment settings, field testing, and comparison with disturbance monitoring data. — Add R1.5 – Verification Documentation Requirements, as asked for in MOD-24 through 27. — The regional requirements should specify the conditions under which the applicable data is gathered and verified to ensure consistency between the data and the models in which it is used. — Add R1.6 as follows: All generating unit control models shall be provided to the TP and RRO. The above model/data shall be compatible with the standard speed governor models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use. — Add R1.7: – Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1.4 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title needs to be changed to include the term Real Power: Verification/Testing of Generator Gross and Net Dependable Capacity — use Capacity instead of capability...Define Net Dependable Capacity in the Standard...consistent with data reporting definitions for capacity plans, as reported to the Regions and EIA. — Modify the purpose to be in keeping with what the standard does: To ensure verified generator gross and net real power capacity data are available to be used in models to assess Bulk Electric System reliability. (This standard is not going to ensure availability of Real Power – capability yes, but not availability.) Net Real Power needs to be defined...gross minus aux power fed from generator bus or minus aux from both generator bus and system (startup) bus. Also needs to consider which side of the GSU. — In R2.3 – Including Date & Condition as established in the RRO procedures – Is this for testing only? Does this imply that Date & Condition documentation has to be in the RRO procedure? MOD-023-1 does not have that as a requirement for the RRO procedure. Region writes the procedure for validating Net Dependable Capacity. If verification is test-based, date and condition is valid, but if historical data based, it is not.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title needs to be changed: Verification/Testing of Sustainable Generator Gross and Net Reactive Power Capability — Modify the Purpose to: To verify sustainable generator gross and net reactive power capability data are available to be used in models to assess Bulk Electric System reliability. (This standard is not going to verify availability of Reactive Power-capability yes, but not availability.) Sustainable is added to differentiate between data used for powerflow and stability modeling purposes. — Net Reactive Power needs to be defined...gross minus aux power fed from generator bus or minus aux from both generator bus and system (startup) bus. Also needs to consider which side of the GSU. — R2.1 – remove phrase: including generator terminal voltage limitations...it is implied in R2.2 Reasons for reactive power limitation(s), but to be explicit, move that phrase into R2.2 — In R3, including Date & Condition as established in the RRO procedures – Is this for testing only? Does this imply that Date & Condition documentation has to be in the RRO procedure? MOD-023-1 does not have that as a requirement for the RRO procedure. Region writes the procedure for validating Net Dependable Capacity. If verification is test-based, date and condition is valid, but if historical data based, it is not.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>See attached file: IDWG Comments – MOD-26-1 6-3-05.doc</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title needs to be changed: Verification of Generating Unit Primary Frequency Response — R1 – The Generator Owner shall provide modeling data to the...Organization requirements. The data shall be compatible with the standard speed governing system models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use. — Add R3 as follows: The generating unit turbine-governor model data shall be provided to the TP and RRO. The above model/data shall be compatible with the standard speed governor models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use. — Add R4 as follows: Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title should be changed to: Provision of Models and Data for Transmission Control Devices — Remove the following phrase from R1.2: based on commissioning test results — Modify R2 to read: ...every five years, or whenever any changes are made to the device or its control settings. — What is the meaning of enough time in M1? Should this be...mutually agreed upon time between Transmission Owner and Transmission Planner / Planning Authority. — Add to R1: The data shall be compatible with standard models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use. — Add R1.3: – Any field changes made by the Transmission Owner or Transmission Operator to the verified data described above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 calendar days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>See attached file: IDWG Comments on DME Standards 6-2-05.doc</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Modify Purpose to read: To ensure all transmission and generation protection system misoperations are analyzed for cause and corrective action are developed and implemented. — Modify R1.2 to read: Requirements for monitoring and analysis of all protective device misoperations for those transmission and generation prescribed in R1.1 — Move R1.6 up in the list to R1.2...logical organization.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	See attached file: IDWG Comments on DME Standards 6-2-05.doc
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	See attached file: IDWG Comments - PRC-019-1 6-3-05.doc

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Change the Title to: Operational Voltage and Reactive Control — This standard appears to be aimed at the operator...a number of changes should be made to Standard VAR-003 to specifically address automatic voltage and reactive control from a planning perspective. — Modify R.2 – Clarify what is meant by contingency conditions...R8 limits it to single contingencies, which are often not sufficient for analysis and operations. — R5.1 – Remove phrase: to maintain Interconnection and generator stability. — R5 – Add the terms ...and availability... after the word status — Reword R10.4 to read: Specify narrowly defined criteria by which generators are to be exempted from the above requirements, for example, to allow for temporary operating conditions. – Having a general exemption clause weakens the standard and causes loopholes. — R8 should be modified to read: ...voltage under next contingency conditions... First appears to be a typo and appears to be confusing...the next contingency is the first contingency from the current operating condition.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Purpose: Replace (within limits in real time) with (within and up to equipment capabilities). — R1.1 – Change (status of each voltage regulator) to (status of automatic voltage regulator). — R4 – Specify GSU and major auxiliary transformers connected to the generator bus — Modify in R1 – ...regulator in service in voltage control mode, not power factor control mode)...
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Reliability Need – The IDWG agrees with the need for this standard which provides a valuable NERC mandate for the development of Region specific generator protection coordination requirements for disturbances that result in temporary excursions in grid frequency and voltage from their normal range. — It is recommended that sub requirements R2.1, R2.2, and R2.3 be removed. It is sufficient for the Region to follow R2 to develop exemption criteria as appropriate for the Region, provided that the regional exemption criteria do not adversely impact bulk electric system performance. — R1.2 – Reword to read: The definition of temporary excursions expressed as a function of each of the following: ... — R1 – It should be clear that generators, as a minimum, do not trip (ride-through capability) for normally cleared transmission system faults that do not isolate the unit.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Future standards for dynamic load modeling and dynamic demand characteristics are important. However, an attempt to establish standards at this time without registered Distribution Providers is premature.</p>
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Future standards for coordinating distribution automation and automatic load shedding with transmission system safety nets are important. However, an attempt to establish standards at this time without registered Distribution Providers is premature.</p>
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	See attached file: IDWG Comments on DME Standards 6-2-05.doc
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

NOTE: IDWG marked DO NOT AGREE with translation for instances where changes are suggested...it may be an accurate portrayal of the original standard, but is lacking or deficient. —
NOTE: IDWG is developing a new set of DME SARs, which are to be completed by June 30, 2005.

IDWG General Comments on Phase III-IV Standards Related to Disturbance Monitoring Equipment (DME)

(Version 0: PRC-002-0; Ph III/IV: MOD-022-1, PRC-002-1, PRC-018-1)

June 3, 2005

The new NERC Standards for DME should consider important issues that came to light in the investigation of the August 14th 2003 blackout. Particularly, the standards must address the need for specificity in standardized criteria and specifications for DMEs and DDRs to ensure the ability of analyzing wide-spread events that pay no respect to political, corporate, or regional boundaries.

The blackout investigations indicated the following:

1. Although there was more recorded data available in 2003 to fully analyze the event than for any other blackout, a vast majority of recorded data was not accurately time stamped with global positioning system (GPS) signals. All of this data is vital information to minimize the effects of future blackouts. It is used to analyze misoperation of generators, or line trips, and provide data for validation of dynamic models, frequency analysis etc. and compare simulations of the event with actual real-time recordings
2. The overall result was an inordinate amount of effort and time was spent in piecing together basic information from dynamic disturbance recorders (DDR), disturbance fault recorders (DFRs) and sequence-of-events recorders of the various NERC regions involved in the event.
3. There was a lack of continuous dynamic disturbance recorders (R1.4) at key busses and lines in the EHV system, or at large generating plants. As a result, when the system broke up into several islands, there was insufficient recording of the events for analysis of frequency, voltages, and power flows at key locations (R1.6).
4. A clear indication from the recent IDWG survey of DMEs in the various NERC regions was that :
 - a. The approaches used by many of the regions were quite different. Different regions interpreted the NERC Planning Criteria and the related standards and measurements differently;
 - b. Some of the regions seemed to have some difficulty in individually developing comprehensive requirements for the installation of disturbance monitoring equipment, as stated in existing criteria and in the new standard in R1;
 - c. Certain entities could have interpreted Disturbance Fault Recorders as a proxy for Dynamic Disturbance Recorders (DDR) for Disturbance Monitoring in meeting requirements;
 - d. Difficulty in interpreting capability of *existing* (versus new) DMEs as meeting NERC requirements;
 - e. Regional criteria for recommended locations and specifications of the devices appeared to be non-uniform and in some cases non-existent.

5. This could result in disturbance monitoring installations of varying description and specifications installed at different locations in an Interconnection with multiple regions such as the Eastern Interconnection, which collectively may not function adequately when a system-wide disturbance such as the August 14th 2003 blackout occurs.
6. Many disturbances, and in particular cascading outages, result in abnormal system behavior that spans the Interconnection *across multiple regions*. This distinctly points to a need for standardization of minimum criteria and specifications between NERC regions to facilitate analyses of wide-spread events.
7. Also, the possibility of control areas sharing data from monitoring devices located in different regions in close proximity and common data management and storage should also be considered.
8. New NERC Standards for DME should consider all these issues in providing minimum technical specifications and criteria to assist the regions in fulfilling their requirements for the installation of disturbance monitoring equipment.

The proposed standards appear to be lacking in the key areas described above for Interconnection-wide coverage for DMEs in general and DDRs in particular.

Generally, these standards have the following deficiencies

- They address only the new equipment being installed.
- They do not address adding time-synchronization capability to the existing installations.
- They do not specify the process for identifying additional locations.
- They do not specify the process for enforcing additional installations.
- They do not specify that installation of dynamic recording devices or sequence-of-event recorders is necessary to meet Disturbance Monitoring requirements.

Therefore, IDWG is developing a new set of DME SARs, which are to be completed by June 30, 2005.

IDWG Comments on MOD-026-1 — Verification and modeling of Generator Excitation Systems and Voltage Controls

June 3, 2005

Title should be changed to: Verification of Generator Excitation Systems and Voltage Control Models — Purpose should be modified to: To verify generator excitation system models and parameters (including voltage regulator controls, limiters, compensators, and power system stabilizers, if applicable) used to assess Bulk Electric System reliability. — R1 – The Generator Owner shall...and applicable Transmission Planner(s) modeling data associated with...Organization requirements. The data shall be compatible with the standard excitation system models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use. — R2:...shall verify the data used in models ... In the absence of generator model validation standards; this will be difficult to enforce. — R1 – This data submittal aspect is already addressed in MOD-012-0 and MOD-013-0 (both have typo/format errors). Such duplicate inconsistent requirements need to be avoided in Industry STANDARDS. — R3, R4 and R5: ...as required by the RRO procedures... imply that these need to be addressed by the RRO procedures. But MOD-023-1 does not require RRO procedures to address those things. — Add R6: Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 days.

IDWG Comments on PRC-019-1 — Coordination of Generator Voltage Regulator Controls With Unit Capabilities and Protection

June 3, 2005

General Comments

The stated purpose of the new standard is: “To ensure generator voltage levels, reactive flows, and reactive resources are controlled and maintained within limits in real time to protect equipment and the reliable operation of the Interconnection.”

To achieve this, the various elements of this proposed standard include plotting on the static MW-MVAR generator capability curves, various AVR dynamic over- and under-excitation curves, loss-of-excitation relaying coordination, dynamic out-of-step relaying coordination, generator back-up relaying. Also volts/hertz relaying, back up voltage constrained overcurrent, negative sequence, and under- and over-frequency relaying are mentioned which could trip the generator.

Such a diverse coordination should be viewed in real time operation when the generator operates at various loads under varying system conditions of voltage and frequency, connected through a network of varying strength, to other generators with varying dynamics. While it is normal practice to provide static MW-MVAR generator capability curves showing generator and turbine MW and MVAR limits, and to impose on it various AVR dynamic over- and under-excitation curves, adding the various other protection functions and coordination in a NERC standard, without other standards or guidelines such as IEEE/ANSI that could be referenced, would make the NERC standard ambiguous and indefensible. Hence more work needs to be done by way of NERC white papers or guidelines to answer questions that will be invariably asked by those attempting to comply with the new NERC standard. Many organizations assume that AVR controls and protection coordination is inherent – thus, methods to demonstrate protection and AVR coordination should be clearly stated.

IDWG therefore suggests the following:

1. Create a new SAR that will provide procedures and guidelines for generator protection and AVR controls coordination. Various elements in this proposed standard could be used.
2. Ensure that all capability limits are established by calculations and verified by generator model validation.
3. If “maximum and minimum excitation limiters” (R1.1.1) is meant to be over- excitation and under-excitation limiters, state it as such.
4. The under-excitation area of operation includes an area of unstable operation. The practical problems in validation of under-excitation limiter settings should be identified.
5. Include over-excitation limiters in R1.2.
6. Delete the theoretical steady state stability limit in R1.1.3 as it is not a practical limit to be considered when the dynamic limits prevail.
7. The out-of-step relaying calculation (R1.1.6) is often performed with static analysis. Its performance is however dynamic and requires a dynamic stability analysis not covered by existing standards. This should be deleted or specific procedures provided.
8. Simply providing relay settings (in R1.1.7 and R1.4) does not ensure adequate coordination with possible transmission system excursions. This would be perhaps better covered in proposed standard VAR-004-1, which would result in defined transmission system excursions for which the generator relays would be expected to be set to ride through.

9. Introduce a new R1.5 stating that "The capability Curve should show additionally curves for operation of +/- 5% voltage levels that the generator is capable of operating according to ANSI Standards."
10. The procedures in the new SAR should also address exemption criteria and phase in periods as appropriate. Exemptions weaken standards.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name: **SERC EC Generation Subcommittee (GS)**
 Lead Contact: Chris Schaeffer
 Contact Organization: Duke Power Co.
 Contact Segment: 5
 Contact Telephone: 704-382-3658
 Contact Email: ceschaef@duke-energy.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Terry Crawley	Southern Company, Generation	SERC	5
Chris Georgeson	Progress Energy	SERC	5
Ken Tiller	Progress Energy	SERC	5
Jerry Nicely	TVA, Nuclear	SERC	5
David Thompson	TVA, Hydro	SERC	5
Chris Schaeffer	Duke Power Company	SERC	5
John Wolfmeyer	SERC Staff	SERC	2

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The RRO procedures should include definitions for gross and net real and reactive power capability (e.g. MNDC, continuous, maximum) and location of measurement.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R5 should allow for alternatives to the open-circuit step response test, such as on-line transient data collection methods.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The scope of this standard is significantly greater than was in the original and seems excessive. A more limited set of requirements will provide evidence of adequate coordination. Delete R 1.1.6, 1.1.7, 1.1.4, 1.4, 1.1.3. Clarify R1.3. Delete NERC from the first sentence in R1 and delete the words unless exempted from the second sentence in R 1.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>All generator operator requirements should be removed from VAR-001-1 and reconciled with the requirements in VAR-002-1. Strike the words and auxiliary from all sections of the standard.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Exemptions should be allowed for planned startup and shutdowns (R1) Strike the words and auxilliary from all sections of the standard. Add to R4 - Prior to agreeing to changes in the main step-up transformer, the Generator Operator shall consider and plan for changes to those settings and adjust auxilliary systems as necessary. The requirement for the GO to monitor grid voltage every 30 minutes is a new and unnecessary burden on the plant operator.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Since these generator tests will take significant time and manpower to accomplish, field testing is recommended to verify these tests produce reasonable model improvements (particularly the tests required in R5).
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

To better facilitate review of draft standards, the members of the SERC GS recommend that standards applicable to GOs and GOPs be grouped together.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	PPL Corporation	
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input checked="" type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input checked="" type="checkbox"/> MAIN	<input checked="" type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input checked="" type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **PPL Corporation**

Lead Contact: Mark A. Heimbach

Contact Organization: PPL Corporation

Contact Segment: 5

Contact Telephone: 610-774-4571

Contact Email: maheimbach@pplweb.com

Additional Member Name	Additional Member Organization	Region*	Segment*
John J. Winders, Jr	PPL Electric Utilities	MAAC	1
John J. Esposito	PPL Generation	MAAC	5
Joseph V. Kisela	PPL Generation	MAAC	5
Joseph V. Kisela	PPL Generation	NPCC	5
Joseph V. Kisela	PPL Generation	MAIN	5
Augustus J. Wilkins	PPL Montana	WECC	5
David L. Gladey	PPL Susquehanna	MAAC	5

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	PPL strongly supports the use of disturbance data wherever possible in lieu of requiring generator testing.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL supports this proposed standard, which improves analytical models used in planning and operating reliability studies. PPL agrees that there are a number of valid sources of information in addition to testing, which include manufacturer data, operational data, performance tracking, simulation and analysis. PPL agrees that Regional Reliability Organizations must allow for exemptions for certain classes of generation units, as appropriate. It is felt that all units under 70 MWs should be exempt from most of these standards due to minimal effects on the system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL supports the objective of this proposed standard. However, there should be exemptions for “energy-only” units, i.e., units that are not designated as capacity resources. Also, testing of hydro units should be waived if the units’ outputs are restricted by conditions that are beyond the plant operator’s control, such as reduced river flows for run-of-river units, or reservoir capacity limitations, restrictions imposed by fishery protection regulations, etc. In addition, there is minimal difference between gross and net real power for hydro units so if a test is required, testing for either gross or net should be acceptable. Also, testing small units as an aggregate should be acceptable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL supports the objective of this proposed standard. However, it must be recognized that on-line testing generating units to the limits of their capability curves presents an inherent risk to the transmission system as well as the generating units themselves. Therefore, it is imperative that the Regional Reliability Organizations perform a unit-specific risk assessment before undertaking any on-line testing. Nuclear units should be exempted from on-line testing unless the Nuclear Generator Owner can demonstrate through the 10CFR50.59 screening process that such testing is not an Unreviewed Safety Question (USQ). PPL believes that real-time operational data could be used in lieu of on-line testing in some instances to validate the range of reactive capabilities.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Generating units also provide a vital dynamic response to system voltage transients and an important voltage regulation function. PPL supports the objective of the proposed standard to verify that these functions are modeled correctly. PPL believes that real-time operational data can provide much of the data required by the Regional Reliability Organizations to verify the modeling of a generator’s dynamic response to transients and whether or not the generator is following its voltage or reactive schedule.</p> <p>While PPL believes there is some value in performing certain off-line tests such as a voltage step test, we do not see a need to repeat these tests unless modifications have been made to a generator’s excitation systems. In addition, units of size less than 70 MWs should be exempt.</p> <p>PPL believes that a NERC standard should require all Generator Owners to have their Automatic Voltage Regulators (AVRs) in service and to immediately report any AVR outages to the system operator</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL supports the objective of this proposed standard, which is to verify the status of generator primary frequency responses used in models for reliability studies. However, this objective will be severely hampered by the limited amount of information that the Generator Owner can provide, which consists of the governor gain setting (MW per Hz), the droop setting, a deadband setting, and perhaps a time constant. It is also unclear how these parameters could ever be verified in the field, inasmuch as it is not possible to stage the system frequency disturbances that would be required. PPL believes that while the proposed standard’s goals are worthy, it may be attempting to achieve a level of modeling precision that is neither necessary nor achievable in practice.</p> <p>A blanket exemption for nuclear units is needed because nuclear regulations prevent these units from having active governor controls, which would override the licensed operators’ control of nuclear reactors during system frequency disturbances.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL strongly supports the use of disturbance data wherever possible in lieu of requiring generator testing. Therefore, clear requirements for the installation of, and reporting from this equipment is essential. Adequate time must be granted to allow for the budgeting, engineering, and installation of this equipment where it currently does not exist.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL strongly supports the use of disturbance data wherever possible in lieu of requiring generator testing. Therefore, clear requirements for the installation of, and reporting from this equipment is essential. Adequate time must be granted to allow for the budgeting, engineering, and installation of this equipment where it currently does not exist.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PPL agrees that Regional Reliability Organizations must allow for exemptions for certain classes of generation units, as appropriate. It is felt that all units under 70 MWs should be exempt from these standards due to minimal effects on the system.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	PPL believes that a NERC standard should require all Generator Owners to have their Automatic Voltage Regulators (AVRs) in service and to immediately report any AVR outages to the system operator.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	PPL believes that a NERC standard should require all Generator Owners to have their Automatic Voltage Regulators (AVRs) in service and to immediately report any AVR outages to the system operator.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD 026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	1/1/2010	PPL feels that there is a need to analyze the test data collected over the last five years in WECC to determine if the risk and expense of these tests are off set by the value in the better model data obtained.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

- 1) **General – The Regional Reliability Organization needs to determine the frequency and overall criteria required for any generation testing in support of these new standards. The needs basis shall only evaluate units that have a significant affect on the safe and reliable operation of the transmission system.**

- 2) **General - Any test that is required on generator equipment needs to be subject to a risk analysis where the value of the test is evaluated against the risk that such test would impact the generation equipment and transmission system. Only units or stations that have a significant affect on the system should be tested.**

- 3) **General - Nuclear units should be exempted from on-line testing unless the Nuclear Generator Owner can demonstrate through the 10CFR50.59 screening process that such testing is not an Unreviewed Safety Question (USQ). PPL believes that real-time operational data could be used in lieu of on-line testing in some instances to validate the range of reactive capabilities.**

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Robert W. Cummings	
Organization:	NERC Staff	
Telephone:	609-452-8060	
Email:	bob.cummings@nerc.net	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC		
<input checked="" type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This concept should not be deleted, but included in other standards (MOD-16 through 21). Data coordination has been done with EIA by the Regions through the NERC Data Coordination Working Group (DCWG) of the RAS since 1992. The data reported to EIA and NERC NEED to be the same...it is not just a nicety. These are inter-dependent data reporting streams, not independent. They use data we provide and we use data reported to them. Further, if the two diverge, then, of necessity, we will need to duplicate all the data reporting that goes on to EIA for RAS. Consistent data reporting from Region to Region and to EIA is NECESSARY for the NERC RAS to do their job for Reliability. If EIA's data is different or reported in a haphazard fashion, we all (all regions) get to explain to EIA, DOE, FERC, and the rest of the world. WHY they are different. I'd really hate to have the DCWG have to go back to the duplicative reporting and constant questions of 1990. — Maybe the best long-run solution is to modify MOD 16 through 21 to include the consistency in reporting to related government entities.</p>
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Carson Taylor
Bonneville Power Administration
360 619 6656
cwtaylor@bpa.gov

VAR-001-1 Comment

As noted by IDWG, another standard is needed for *automatic* control of voltage and reactive power. Best practice is to rely primarily on automatic control, realizing that disturbances can evolve to blackouts within seconds or a few minutes—before operators can take action.

VAR-003-1 Comment

Static and dynamic reactive power must be carefully defined. Preferably, better terms should be used.

“Static” usually is taken to mean fixed or mechanically switched capacitor/reactor banks, and that mechanical switching is operator-directed in a slow time frame (basically fixed). At BPA and at other companies capacitor/reactor banks are rapidly switched following disturbances by local voltage relays, SPS/RAS, or within a few minutes via SCADA operators. Fraction of a second switching is used by both voltage relays and SPS/RAS. During the June 14, 2004 loss of 4600 MW of Arizona generation event, BPA shunt and series capacitor banks and shunt reactors switched during the first forward angle swing by voltage relays and RAS. Operators switched other banks within two minutes as voltage again decayed because of Northwest governor action. A circuit breaker is pretty dynamic.

The problem that shunt capacitor bank output is a function of voltage-squared is dealt with in design by the control settings, bank sizes, and number of banks so that the voltage is not allowed to collapse.

The word “static” is used in “static var compensator” to mean power electronic rather than mechanical switching.

“Continuous automatic control” and “discontinuous automatic control” might be better terms. Better yet, why not a simple statement that various types of reactive power resources at effective locations must be planned and operated to meet performance requirements?

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **NERC System Protection and Controls Task Force**
 Lead Contact: Bob Cummings
 Contact Organization: NERC
 Contact Segment:
 Contact Telephone: 609-452-8060
 Contact Email: bob.cummings@nerc.net

Additional Member Name	Additional Member Organization	Region*	Segment*
Charles Rogers	Consumers Energy Co	ECAR	
W. Mark Carpenter	TXU Electric Delivery	ERCOT	
David Angell	Idaho Power Company	WECC	
Deven Bhan	Western Area Power Administratio	MRO	
Joseph M. Burdis	PJM Interconnection, L.L.C.	MACC	
John L. Ciufo	Hydro One, Inc.	NPCC	
Jim Ingleson	New York Independent System Oper	NPCC	
Fred Ipock	City Utilities of Springfield	SPP	
Bill Kennedy	Alberta Electric System Operator	WECC	
Gary L. Kobet	Tennessee Valley Authority	SERC	
William J. Miller	Exelon Corporation	MAIN	
John Mulhausen	Florida Power & Light Co.	FRCC	
Evan T. Sage	Potomac Electric Power Co.	MACC	
Bob Stuart	NERC Consultant	N/A	
Philip Tatro, P.E.	National Grid USA	NPCC	
Philip B. Winston	Georgia Power Company	SERC	
Henry Miller	AEP Service Corp.	ECAR	
Baj Agrawal	Arizona Public Service Co.	WECC	
Tom Wiedman	Wiedman Power System Consulting	N/A	
Jon F. Daume	Bonneville Power Administration	WECC	
Jerome B. Williams	AEP Service Corp.	ECAR	
Robert W. Cummings	NERC Staff	N/A	

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>M4 - modify last phrase to indicate for consistency with M2: to other Regional Reliability Organizations and NERC within 30 calendar days of a request --- The standard lacks specificity for requirements, such as a standard time reference, data formats, file naming, frequency traces, recording duration, triggering, etc. These are necessary for analysis of interregional events.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Standard is deficient — Needs a definition of protection systems — Delete R1.6. because the standard needs a universal definition of misoperation. It is proposed that NERC consider implementing, as a starting point, the PSRC definitions outlined in the 1999 report: Transmission Protective Relay System Performance Measuring Methodology.— Modify Purpose in Introduction to read: To ensure all transmission and generation protection system misoperations are analyzed for cause and corrective actions are developed and implemented. — In R1.2 need to set minimum requirements for monitoring ALL operations, even possible correct ones, in order to ensure all misoperations have been identified. Need to set some minimum requirements for analysis, especially if no cause is found. In Levels of Non-compliance, need to provide lower level of non-compliance since not addressing one requirement is certainly less severe than not even having a procedure. — R1.2 – Append: as defined in R1.1. — R1.4 – Append: as defined in R1.1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)	III.C.M11 – Analysis of misoperations of generator protection equipment	Merged into existing PRC-004: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Standard is deficient — Needs definitions of protection systems and misoperations – It is proposed that NERC consider implementing, as a starting point, the PSRC definitions outlined in the 1999 report: Transmission Protective Relay System Performance Measuring Methodology.— The April 11, 2005 version seemed to leave out Generator Owners that own transmission protection systems. But the April 21, 2005 version includes it by stating: the Transmission Owner, Generator Owner, and Distribution Provider that owns a transmission or generator protection system. The April 21 version should be retained. — R1 and M1 are non specific as to the size of the generator for which a relay misoperation needs to be analyzed. Requiring a formal analysis for minor misoperation on relatively small generating units is burdensome and unnecessary.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard is too weak to be meaningful. An entity could have a program that simply states that they will do demand maintenance upon known problems together with the procedure, etc, and they would conform to this standard. It needs to be strengthened in the future. – Is run-to-failure an adequate maintenance/testing program? If not, what are the minimum requirements?</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R.2 should be revised to read: The Transmission Owner and Generator Owner shall maintain, and report to the Regional Reliability Organization within 30 calendar days of a request, the following data on its installed Disturbance Monitoring</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The purpose of this standard should explicitly define coordination as it pertains to this standard. The applicable Reliability Coordinators must have the same information as the regions and generators. — It should be made clear that this standard applies only to transmission-connected generation, contrasted to distributed generation.— R1 implies that a Generator Owner may be exempted by the Regional Reliability Organization. All Generator Owners, without exception, should be required to meet this requirement. — R1.2: As item R1.3.1 states the purpose of the V/Hz protection, an item should be added below R1.2, stating that the MEL and loss-of-excitation protection protect (1) the generator rotor from damage due to induced currents in the rotor when excitation is drawn from the power system, and (2) the power system from large MVAR drain and low voltage when generators (especially large units) draw their excitation from the power system. — All generator protective relays should coordinate with transmission system protection (e.g., generator backup distance / negative sequence, GSU neutral OC backup; also generator 81UF with system UFLS, etc.). R1.4 is a declarative sentence with no requirements. — D1.2: Annual submission of this much information is unnecessary because these settings do not change that often. A 5 year resubmission is more reasonable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The purpose does not reflect the standard. It should be modified to read: Document Under-Voltage Load Shedding (UVLS) programs intended to mitigate the risk of system voltage collapse or voltage instability. — Modify R1.1 to state: Size and location of customer load, or percent of connected load at each location, to be interrupted. To address generation connected to lower-voltage level systems and its potential impact on UVLS, add a requirement for: Size, location, and characteristics of generators connected to the system elements being interrupted. — UVLS schemes need to be differentiated between those intended for local protection and those intended to mitigate the risk of interconnected system collapse.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The purpose does not reflect the standard. It should be modified to read: Document Under-Voltage Load Shedding (UVLS) programs intended to mitigate the risk of system voltage collapse or voltage instability. — Modify R1.1 to state: Size and location of customer load, or percent of connected load at each location, to be interrupted. To address generation connected to lower-voltage level systems and its potential impact on UVLS, add a requirement for: Size, location, and characteristics of generators connected to the system elements being interrupted. — UVLS schemes need to be differentiated between those intended for local protection and those intended to mitigate the risk of interconnected system collapse.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No Comments</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The SPCTF believes the standard does not sufficiently address the differing needs of redundancy of today’s protection systems. The standard will eventually have to be rewritten due to the widely varying capabilities of digital relays and electro-mechanical relays. The objective should be that: For any single common mode failure within the protection system, sufficient backup must be available such that faults are cleared within the system protection performance requirements and adequate load-carrying capabilities are maintained. — If it is to remain prescriptive at this time, see the attached Word document: SPCTF Comments - PRC-023-1 6-7-05</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Add microprocessor relays to the list.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
PRC-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		This standard needs to be field tested after it is rewritten to address concerns of SPCTF. The resultant standard will be complicated and we will need to judge the benefits of the complexities
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Scopes are not clear in all cases. These standards do not specify the voltage levels to which they apply. Reference to the bulk electric system without a clear definition can be confusing, at best.

SPCTF Comments on PRC-023-1 — Redundancy of Transmission Protection Systems

June 7, 2005

Where redundancy in the protection systems due to single protection system component failures is necessary to meet the system performance requirements the transmission or protection system owners shall implement the protection scheme with the following redundant items:

Protective Relays – The transmission element will be protected by two relay systems (System) where each is independently capable of performing the protective functions. The overall protection design should minimize the risk of both Systems being disabled simultaneously by a single event or condition

AC Current Inputs – The relay current sensing elements of each System are to be supplied by separate current transformer secondary windings.

AC Voltage Inputs – The relay voltage sensing elements of each System where both, or all, of the redundant relays require ac potential to determine directionality, are to be supplied by separate voltage transformer secondary windings from the potential devices.

DC Voltage – The DC control and power supply voltages (if required) for each System are to be supplied by separately fused circuits and coordinated with upstream circuit protection.

Communication Channels – Where communications aided tripping is required to meet the system performance requirements, each System is to be supplied by an independent communications channel.

Breaker Failure – The breaker failure function need not be duplicated, however, each System is to independently initiate the breaker failure protection function.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Richard Padilla
Organization:	Pacific Gas and Electric Company
Telephone:	(530) 757-5216
Email:	rjp5@pge.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

Group Comments (Complete this page if comments are from a group.)
Group Name:
Lead Contact:
Contact Organization:
Contact Segment:
Contact Telephone:
Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*
Reimers, Greg	PG&E	WECC	5

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
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Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>COMMENT: R3 states "the Transmission Operator shall develop restoration plans with a priority of restoring the integrity of the Interconnection". R11.4 states "The affected Transmission Operator shall give high priority to restoration of off-site power to nuclear stations". These two statements could result in confusion in terms of priority (i.e. the Interconnection or offsite power to a nuclear station). Restoring offsite power to a nuclear station may not contribute to restoring the bulk power system and its interconnections, therefore, may be judged a lower priority by the Transmission Operator. The NRC expects the restoration of offsite power to a nuclear power plant to be the highest priority. COMMENT: R8 is too general regarding the capability of blackstart units. Blackstart unit capability should also be sufficient to meet nuclear offsite power requirements. COMMENT: R9 should require that documentation of simulation / testing acceptance be transmitted to the nuclear power plants. COMMENT: R10 Same comment as R9, documentation applicable to nuclear offsite power cranking paths should be provided to the nuclear power plants. COMMENT: R11.5.4 should specifically exclude nuclear offsite power from any load shedding.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Add a requirement, R2, to obtain postulated post accident offsite power loading from the nuclear power plants.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There needs to be a formal communication path developed between gen owner, Utility, ISO's & regions such that information can be transmitted and get to the right people. Nuclear facilities may have some exemptions as discussed in R1.1, for example 1: Any testing to verify/validate generator modeling needs to be proceduralized and a 10CFR50.59 performed. Nuclear facilities will not perform any test which is outside the design/license basis of the plant or may adversely impact the health and safety of the public. Example 2: Our facility is on a 20-22 month fuel cycle and should not be required to do testing requiring taking the unit offline at a frequency less than one refueling cycle.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	It is not clear what is required to verify "sustainable gross and net real power capability" as established by Regional Reliability Organization procedures. If testing is required, same comment as MOD 023 1
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Same as MOD 024 1

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Our facility is on a 20-22 month fuel cycle and should not be required to do testing requiring taking the unit offline mid-cycle, for example, to do open circuit response tests.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Nuclear facility governors are block loaded to prevent electrical transients on the system from affecting the primary plant and testing to verify generator frequency response is probably not practical. Nuclear facilities may need an exemption from this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This standard is not applicable to nuclear power plant generators per Section 4.1. However, R1.6.3 implies that generators may have some installation requirements. If additional disturbance monitoring equipment is required for nuclear facilities, a two year advance notice is required for installation.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Any misoperation of nuclear protection systems would be evaluated as part of the plant corrective action program.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Nuclear facilities have a documented maintenance program.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 If additional disturbance monitoring equipment is required for nuclear facilities, a two year advance notice is required for installation. M2 Refers to non-existent sections R2.1 through R2.6 in PRC 002 for data requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 Some generator voltages limits are restricted by plant auxiliary bus voltages and not generator capabilities. M1 30 days is insufficient time to schedule and prepare a calculation.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>A3 The purpose should be expanded to preclude the loss of offsite power to nuclear power plants.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Same as PRC 020 1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Same as PRC 020 1.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>A3 The purpose should be expanded to include no single protection system component failure shall result in the loss of both nuclear power plant offsite power interconnections.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R7 The basis for the requirement should be expanded “... to maintain system, interconnection, and nuclear power plant offsite power voltages within established limits.”</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	These requirements should not result in increased trip risk or turbine damage

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name: **Transmission Subcommittee**

Lead Contact: Robert E. Reed

Contact Organization:

Contact Segment:

Contact Telephone: (610) 666-8862

Contact Email: reed@pjm.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Francis J. Halpin			
Daniel E. Cooper			
Kenneth A. Donohoo			
Michael F. Gildea			
Tom J. Mallinger			
Darrick Moe			
Thomas R. Stuchlik			
Roman Carter			
David H. Thorne			
Robert W. Waldele			
Susan L. Morris			
Raymond Palmieri			
Edward C. Pfeiffer			
Thomas J. Vandervort			

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The Transmission Subcommittee compliments work and effort by the Phase III and IV Standard Drafting Team. The Transmission Subcommittee supports the draft standards within the Phase III and IV Standards SAR. Please consider the following comments that the Transmission Subcommittee asks or suggest to clarify or enhance the respective draft standards.

VAR-001-1, A. Introduction, 4. Applicability, TS recommends adding "4.3. Transmission Service Provider" - TS: TSP is used in R4.

VAR-001-1, R3, TS recommends adding language for technical accuracy as follows: Each Transmission Operator shall "maintain a list of synchronous generators and shall (add)" specify a voltage or reactive schedule . . .

TS Recommends Defining "Reactive Capability of Generating Unit(s)" - TS does not offer a recommendation for the definition.

TS Recommendation: Once "Reactive Capability of Generation Unit(s)" is established the criteria needs to be defined to coincide with R3 when the voltage and reactive schedule is not maintained by each generator within the reactive capability of the unit. Does the PRC-019 capture the reporting requirements?

TS Recommends Defining "Voltage Schedule" as "Voltage Schedule - A voltage range or set-point as a specific bus."

TS Recommends Defining "Reactive Power Schedule" as "REactive Power Schedule - A reactive power range or set-point at a specific location(s)."

TS recommends deleting R3.1, with additional language inserted into R3, see R3 comment above.

VAR-001-1, R8.1., TS recommends the following language change: Each Transmission Operator "disperse and locate (delete)" "direct the operation of (add)" of reactive resources so that . . .

VAR-001-1, R9., TS recommends evaluating TOP-004-0 to determine if this requirement is captured within the IROL and SOL requirements. Consider incorporating the necessary language into the TOP-004 standard and deleting R9.

VAR-001-1, R9.1, TS recommends moving R9.1 to R10.1, since it is more appropriate under R10.

VAR-001-1, R9.2, TS recommends deleting R9.2, since it is essentially captured in VAR-002-1.

VAR-001-1, R11.2, TS Comment: R11.2 doesn't seem to have a valid purpose. R11.2 should either be deleted, or language should be added to clarify its purpose/intent.

VAR-001-1, R12, TS recommends evaluating TOP-004-0 to determine if this requirement is captured within the IROL and SOL requirements. Consider incorporating the necessary language into the TOP-004 standard and deleting R12.

TS Recommends Defining "NERC" as it is used throughout the standards. Use M1, above, as an example. The TS does not offer a "NERC" definition.

TS Observation: There are requirements that do not have measures. The TS was under the impression that all requirements needed to have measures to meet the criteria of the Standards Process Manual.

VAR-001-1, M4, TS Recommendation and Consideration: TS Recommends adding M4 as follows: "M4. In the event a voltage collapse occurred on the bulk electrical system under the control of the Transmission Operator during the performance period, the Transmission Operator shall produce documents, within 7 calendar days, demonstrating the actions it took under VAR-001-1, R2, R6, R8, and R12, in an effort to prevent the voltage collapse."

VAR-001-1, M4, TS Consideration: TS recommends evaluating Measure M4 for inclusion within TOP-004, and remove the measure from this standard.

VAR-001-1, D. Compliance, 2.4., Level 4: TS recommends adding the following second paragraph to VAR-001-1, 2.4., "In the event a voltage collapse occurs, if the Transmission Operator has inadequate documentation demonstrating it took proper preventative actions under VAR-001-1, R2, R6, R8, and R12."

VAR-001-1, Compliance, 2.4., Level 4, TS Consideration: TS recommends evaluating Compliance Level 4 language for inclusion within TOP-04 and remove the Level 4 language from this standard.

VAR-002-1, R2, TS suggests the last part of R2 is assumed to be within the proposed R2 language and recommends the R2 language be modified as follows: Each Generator Operator shall maintain the synchronous generator voltage or reactive output "within the reactive capability of the unit as "specified (delete)" "directed (add)" by the Transmission Operator. "unless otherwise approved by the Transmission Operator. (delete)."

VAR-002-1, R3, TS recommends referencing "within 30 minutes" be anchored to a start time, end time, or another reference point. By itself, the "within 30 minutes" is ambiguous.

TS Consideration: The TS is concerned that this standard may not be the most optimal location for "documentation and reporting" requirements. If the reporting criteria is contained within a "Documentation and Reporting" standard, then the respective requirements should be deleted from this standard. (example: VAR-002-1, R3)

VAR-002-1, M2, TS Recommendation: M2 lacks a "within X amount of time" that other measures contain. To be consistent with other standards, a reporting window should be included.

VAR-003-1, R2.2., TS recommends rewording the R2.2. language as follows: The Transmission Planner and Planning Authority shall each perform this assessment at least once every "five (delete)" "three (add)" years or as required by "significant (add)" changes in system conditions "which may affect static and dynamic reactive power requirements. (add)"

VAR-003-1, R2.2., TS Consideration: The term "changes in system conditions" is very liberal. TS recommends defining these changes as being significant to the assessment study (e.g. load growth, generation additions, dynamic and static reactive power additions or deletions, changes in operations, etc.).

VAR-003-1, M1: TS believes that M1 requirement to provide evidence within "3 calendar days" is a typographical error and actually is "30 calendar days." TS believes 30 calendar days is a realistic time span for a request-documentation reporting window.

VAR-003-1, M3: TS recommends an assessment every three years to coincide with recommended "three years" in R2, above.

VAR-004-1, R2: TS recommends considering combining R2 and R3. This can be accomplished by the addition of "variances" to R2 and deleting R3.

VAR-004-1, R2 and R3: TS recommends defining "variance" and "exemption" as used within the standards. The proper location for the definitions is within the Glossary of Terms. This will eliminate ambiguous interpretations of what is meant by variances or exemptions. The TS does not offer a recommended definition for either term.

MOD-023-1, R1.2.: TS recommends putting more emphasis on performance tracking and testing. Relying on manufacturer data, simulation, and analysis, may not generate enough data.

MOD-023-1, R1.4.1., and R1.4.2.: TS recommends linking these two requirements. Currently there is no linkage between voltage and reactive power testing.

MOD-023-1, R2, and M2.: TS recommends including Transmission Operator within R2 and M2.

MOD-024-1, Introduction, 4. Applicability, TS recommends adding "Regional Reliability Organization."

MOD-024-1, R2.1.: TS Recommends defining or give some indication what the acceptable power factor level is and define the summer and winter peak demand time-frame.

MOD-024-1, R2, and M2: TS recommends including the Transmission Operator in both R2 and M2.

MOD-024-1, Requirements, Recommend establishing linkages between standards. In this particular standard, there appears to be a link between MOD-023-1 and MOD -024-1.

MOD-025-1, Introduction, 4. Applicability, TS recommends adding "Regional Reliability Organization."

MOD-025-1, Requirements, Recommend establishing linkages between standards. In this particular standard, there appears to be a link between MOD-023-1 and MOD-025-1.

PRC-019-1, M1, TS recommends including Generator Operator in M1.

PRC-020-1, R2: TS recommends including criteria to waive PRC-020 requirements from those RROs that do not have or need Under-Voltage Load Shedding (UVLS) programs. Also, the TS recommends using language that is consistent with PRC-021, and PRC-022, that applies the PRC-020 requirements to the RROs whose Transmission Owners, Transmission Operators, Load-Serving Entities, and Distribution Providers "that owns or operates an UVLS program."

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Raj Rana - Coordinator
Organization:	AEP
Telephone:	614-716-2359
Email:	raj_rana@AEP.com
NERC Region	Registered Ballot Body Segment
<input checked="" type="checkbox"/> ERCOT	<input checked="" type="checkbox"/> 1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input checked="" type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Format Fix required: Nead "Measures" Heading. Requirements numbering in the draft standard does not agree with comparison document. How do the last 2 requirements relate to the levels of non-compliance?</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Drop/delete this standard. For details, see the attached MS Word file.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Reword R1.2 as follows: Acceptable methods for model and data verification, including but not limited to manufacturer data, performance tracking, simulation, analysis, field verification of equipment settings, field testing and comparison with disturbance monitoring data. Add R1.5: Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1.4 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 days.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Reword the title as follows: Verification of Generator Real Power Gross and Net Dependable Capability. --- Reword 1.4 Additional Compliance Information as follows: The Generator Owner shall demonstrate compliance through transmitting the verified data to Transmission Owner/Operator/Planner, and through self-certification or audit - - - as determined by the Compliance Monitor.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Change the title as follows: Verification of Sustainable Generator Gross and Net Reactive Power Capability. The word Sustainable is added to differentiate between data used for power flow vs. stability studies. ---Reword D1.4 Additional Complinance Information as follows: The Generator Owner shall demonstrate compliance through transmitting the verified data to Transmission Owner/Operator/Planner, and through self-certification or audit - - - - as determined by the Compliance Monitor. R2.1 - last phrase - "including generator terminal voltage limitations" - Consider: Maximum reactive power capability as a function of real output, as limited by generator bus voltage and/or auxiliary bus voltages.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	See the attached MS Word file.
MOD-027-1 Verification and Status of Generator Frequency Response	II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system	Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	See the attached MS Word file.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>See the attached MS Word file.</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Modify Definition of Disturbance Monitoring equipment to include "Microprocessor relays". In R1.1 - add to parenthetical "Microprocessor Relays"</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Modify Definition of Disturbance Monitoring equipment to include "Microprocessor relays".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This is a complex subject. We suggest that first a white paper be prepared and then the standard be field tested. This may lead to drafting of a new SAR. Existing draft is overly proscriptive.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2 requires 30 days to provide a report on an event. The standards should allow latitude for events which require more than 30 days to complete an analysis.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Change the title to Real Time Voltage and Reactive Control. This is to reflect the focus of this standard, which is in the transmission operations arena. --- Reword R8 as follows: Each Transmission Operator shall maintain reactive resources to support its voltage under credible contingency conditions. (This allows looking at n-1 as well as multiple contingencies.)
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Reword R4 as follows: When mutually agreed with the Transmission Operator, the Generator Operator shall change transformer tap positions - - - upon time frame.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	See the attached MS Word file.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	<p>Power flow and dynamics planning base cases are intended for a wide variety of study applications having different load modeling requirements. In most planning studies, load MW and MVAR response to voltage and frequency variability is a relatively insignificant matter and the standard constant P/Q or ZIP approximations are satisfactory. This includes almost all power flow analysis and transient stability studies.</p> <p>However there is wide recognition that the study of certain phenomena requires specialized load modeling. These phenomena are voltage collapse and instability, and unstable or poorly damped power swings, and also to some degree large frequency disturbances.</p> <p>Unfortunately, research on load modeling suitable for use covering these phenomena has not yet resulted in any industry-wide determination of best practices. However, in the mean time, experienced planning engineers can usually devise suitable load modeling appropriate to these areas of study.</p> <p>Deletion of II.E.M1-M3 standards and reliance on experienced planners is the best course at the present time.</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>		<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Unfortunately, this definition excludes the GE variable frequency transformer (VFT) device.

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
VAR-004-1 (Generator Performance During Temporary Frequency and Voltage Excursions)	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	11/01/05	The subject is complex. Prepare a white paper to facilitate field testing. White paper and field testing experience may lead to drafting of a new SAR.
PRC-019-1 (Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection)	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	11/01/05	The subject is complex. Prepare a white paper to facilitate field testing. White paper and field testing experience may lead to drafting of a new SAR.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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Question 4: Do you have any additional comments not addressed by the other questions?

Comment

AEP Comments on Draft 1 -- Phase III-IV Planning Standards

**Comments by Navin Bhatt and Rob O'Keefe
May 27, 2005**

MOD-022-1 (Use of Disturbance Data to Develop and Maintain Models)

Drop/delete this standard.

The proposed standard covers an area where difficulties will be encountered in enforcing the requirements. This is because of the often complex modeling problems and significant engineering time involved in replicating system disturbances and determining the most appropriate modeling enhancements to achieve reasonable matches between disturbance data and simulation results.

Not every disturbance is worthy of an event replication effort, which could consume significant resources. Compliance enforcement problems would arise when disturbances are not adequately recorded, do not fit well within the time frame of model applicability, are too localized in nature, or are otherwise not worthy of the time and expense to replicate. -- It may not always be desirable to include all improvements in system data necessary to replicate a given disturbance into general purpose planning base cases. There must be allowance to exercise judgment in this regard. Where it makes sense to include model changes into base case data, this should be done with review at the Regional level to help ensure that future problems with the data do not arise.

These are some of the reasons for recommending against proceeding with this standard.

However, if NERC still wishes to proceed, the standard should emphasize the reporting of disturbance replication analysis, with less emphasis on the inclusion of model changes identified by a particular disturbance replication. The Compliance Monitoring Period should be extended from one to at least five years in order to allow opportunity for more disturbances to be factored into decisions on any modeling data changes, and allow sufficient time to analyze such disturbances.

MOD-026-1 (Verification and Modeling of Generator Excitation Systems and Voltage Controls)

Reword the title as follows: Verification of Generator Excitation System and Voltage Control Models.

Reword R1 as follows: The Generator Owner shall - - - and applicable Transmission Planner(s) modeling data associated with - - - Organization

requirements. The data shall be compatible with the standard excitation system models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use.

Delete the last sentence in R4.

Add R6 as follows: Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 days.

D1.2 Compliance Monitoring Period and Reset Timeframe: At installation of new equipment. Beyond that, when equipment is changed out or when setting changes are made. (Once this data becomes established and there are no further equipment changes, it is unnecessary and burdensome to keep repeatedly doing compliance reviews.)

D1.3 Data Retention: Generator Owner shall retain commissioning and test reports and data indefinitely or until unit is retired.

D1.4 Additional Compliance Information: The Generator Owner shall demonstrate compliance through transmitting the verified data to Transmission Owner/Operator/Planner, and through self-certification or audit - - - - as determined by the Compliance Monitor. The Generator Owner shall demonstrate compliance by handing over the requested data.

MOD-027-1 (Verification and Status of Frequency Response)

Reword the title as follows: Verification of Generating Unit Primary Frequency Response

Add R3 as follows: The generating unit turbine-governor model block diagram and associated data shall be provided to the TP and RRO. The above model/data shall be compatible with the standard speed governor models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use.

Add R4 as follows: Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner, Planning Authority, and Transmission Planners, and reported to the region within 30 days.

D1.2 Compliance Monitoring Period and Reset Timeframe: At installation of new equipment. Beyond that, when equipment is changed out or when setting changes are made. (Once this data becomes established and there are no further equipment changes, it is unnecessary and burdensome to keep repeatedly doing compliance reviews.)

D1.3 Data Retention: Generator Owner shall retain commissioning and test reports and data indefinitely or until unit is retired.

D1.4 Additional Compliance Information: The Generator Owner shall demonstrate compliance through transmitting the verified data to Transmission Owner/Operator/Planner, and through self-certification or audit - - - as determined by the Compliance Monitor. The Generator Owner shall demonstrate compliance by handing over the requested data.

MOD-028-1 (Provision of Models and Data for Transmission Power Electronic Control Devices)

Reword the title as follows: Provision of Models and Data for Transmission Control Devices. This is to cover devices such as the GE variable frequency transformer (VFT).

Modify R2 to read: ...every five years, or sooner if any changes are made to the device or its control settings.

Add to R1: The data shall be compatible with standard models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use.

Add R1.3: – Any field changes made by the Transmission Owner or Transmission Operator to the verified data described above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be coordinated with the Transmission Owner/Planner, and reported to the region within 30 calendar days.

D1.2 Compliance Monitoring Period and Reset Timeframe: At installation of new equipment. Beyond that, when equipment is changed out or when setting changes are made. (Once this data becomes established and there are no further equipment changes, it is unnecessary and burdensome to keep repeatedly doing compliance reviews.)

D1.3 Data Retention: Generator Owner shall retain data indefinitely or until the device is retired.

Delete D2.2 (Level 2 noncompliance)

VAR-004-1 (Generator Performance During Temporary Frequency and Voltage Excursions)

This standard is needed for reliability. But, it requires significant work to draft a standard that will provide proper balance between system need (for the generator to remain connected) and the generator equipment need (to avoid unnecessary damage).

Several points are presented below for the drafting team to consider:

- 1. Prepare a white paper and then draft a new SAR. The white paper will facilitate the understanding of this complex technical issue and will provide guidance regarding specific technical issues that need to be addressed in the new SAR.**
- 2. The generating unit must be allowed to operate continuously in 59.5-60.5 Hz range.**
- 3. A generating unit must not trip for normally cleared transmission faults that do not isolate the unit (e.g. for a three-phase fault at the generating station)**
- 4. It may be adequate to have a standard that requires reporting of generating unit trip points and the associated time delays, rather than for the Regions to dictate ride through requirements.**
- 5. Requiring the regions to devise standards and exception criteria may not be a worthwhile endeavor. In fact, most existing generation, including most new CT and CC units, already has acceptable survivability for both frequency and voltage excursions because experienced generator manufacturers generally understand power system requirements.**
- 6. Frequency Issue: The generator must not trip before the last stage of UFLS.**
- 7. Voltage Issue: A big problem on voltage ride through appears on older units whose over-excitation protection/limiting functions either trip exciter, or transfer from automatic to manual at some preset excitation level. Such units ought to be retrofitted with state-of-the-art equipment. The state-of-the-art on excitation systems has improved to the point where units should not have difficulties in surviving most voltage excursions. However, I/we acknowledge that requiring generator owners to retrofit old excitation equipment may be more than this standard could reasonably achieve.**

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Kathy Davis	
Organization:	Tennessee Valley Authority	
Telephone:	423-751-6172	
Email:	kadavis@tva.gov	
NERC Region	Registered Ballot Body Segment	
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization: .

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*
Mitch Needham	TVA	SERC	1
James Whitehead	TVA	SERC	1
David Till	TVA	SERC	1
Jerry Nicely	TVA, Nuclear	SERC	5
Tom Cain	TVA	SERC	1
Al Corbett	TVA	SERC	1
Dennis Chastain	TVA	SERC	6
Pat Caldwell	TVA	SERC	1
Walter Jolly			

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In "Levels of Non-Compliance" Section 2.4.2, delete the word "regional"</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Proposed standard does not take into account the significant time involved and the complexity of issues in the investigation and modelling of system disturbances and determining the most appropriate modelling enhancements to correlate simulation results with recorded data. Every recorded event should not be used for model validation because of the number of events that are recorded. This standard, as written, would take an excessive amount of manpower commitment! The standard needs to allow engineering judgment as to which disturbances should be modelled. Also unintended compliance problems would arise when disturbances are not adequately recorded or are too localized in nature to justify the time and expense to investigate and simulate accurately. Although this standard sounds like a good idea, engineering judgment is difficult to audit, therefore the standard should be transformed into a guide or deleted. This really is a guide not a reliability standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	There needs to be a reference for the regions to have a common interval for verification and reverification
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The Transmission Planner is not mentioned in the Applicability Section of this standard .</p> <p>Delete text under Additional Compliance Information. The term verify is very vague. Throughout the standard, change ...verify... or ...verification... to ...test or otherwise demonstrate... Add ...leading and lagging... after ...reactive power capability... in R1.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>If a model does not conform to an IEEE standard or PSSE or PSLF/PSDS standard library model, the generator owner should be required to have a user-defined model written and validated. Test reports should always be provided to the transmission planner along with the model so independent checking of generator verification is possible. There should be a MW cutoff - exemption that is allowed if approved by the Transmission Provider.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The Regional Reliability Organization is required by VAR-004 to establish voltage/frequency dip criteria, but the only standard that addresses the generator’s capability to meet these criteria is this one. This standard should therefore be more specific about providing information about when the generator will trip. Generator trip settings (under/over frequency and voltage ride thru capability) should be provided to the Transmission Planner. (Essential to coordinate with UFLS).</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Models are required to be verified only during commissioning tests. It is not clear what should occur if a change to a setting happens after this time. Model changes subsequent to setting changes should allow validation by design data.</p> <p>At some point in the future as more of these devices are installed on the system, they would become a reliability issue.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)	I.F.M3 – Disturbance monitoring data reporting requirements	Merged into existing PRC-002-0: See R3, R4, M3, and M4.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Standard is deficient — Needs a definition of protection systems — Delete R1.6. because the standard needs a universal definition of misoperation. It is proposed that NERC consider implementing, as a starting point, the PSRC definitions outlined in the 1999 report: Transmission Protective Relay System Performance Measuring Methodology.— Modify Purpose in Introduction to read: To ensure all transmission and generation protection system misoperations are analyzed for cause and corrective actions are developed and implemented. — In R1.2 need to set minimum requirements for monitoring ALL operations, even possible correct ones, in order to ensure all misoperations have been identified. Need to set some minimum requirements for analysis, especially if no cause is found. In Levels of Non-compliance, need to provide lower level of non-compliance since not addressing one requirement is certainly less severe than not even having a procedure. — R1.2 – Append: as defined in R1.1. — R1.4 – Append: as defined in R1.1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R.2 should be revised to read: The Transmission Owner and Generator Owner shall maintain, and report to the Regional Reliability Organization within 30 calendar days of a request, the following data on its installed Disturbance Monitoring</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Requirements are not clear and if requirements are retained, they need to be field tested</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>TVA suggests clarifying this by defining simulation as including sequence of events analysis as opposed to only computer simulations. The validation of models takes extensive effort and is likely beyond the resources of most if not all entities covered by this standard</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>All generator operator requirements should be removed from this standard and reconciled with the requirements in VAR-002-1 and if not, then generator operators should be added in the Applicability Section. Strike the words "and auxiliary" from all sections</p> <p>R4 mentions Marketers, but there is no mention in the Compliance section.</p> <p>R6 and R7 are redundant. delete R6</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Exemptions should be allowed for planned startup and shutdowns (R1) Strike the words and auxilliary from all sections of the standard. Add to R4 - Prior to agreeing to changes in the main step-up transformer, the Generator Operator shall consider and plan for changes to those settings and adjust auxilliary systems as necessary. The requirement for the GO to monitor grid voltage every 30 minutes is a new and unnecessary burden on the plant operator.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	TVA agrees that there is a reliability need, but feels that the intent of this standard is already covered in TPL-001-004
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R5 - replace "excursions in voltage, frequency, and real and reactive power output of a generator" with "excursion in voltage and frequency"

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Since these generator tests will take significant time and manpower to accomplish, field testing is recommended to verify these tests produce reasonable model improvements (particularly the tests required in R5).
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures.
PRC-019-9	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The requirements of this standard are not clear. They appear to require an enormous amount of work which may not be practical.
VAR-004-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		This will create tremendous overhead on personnel analysis and documentation. The standard will be complicated and we need to judge the benefits of the complexities.
PRC-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		This will create tremendous overhead on personnel analysis and documentation. The standard will be complicated and we need to judge the benefits of the complexities.
MOD-022-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		This standard, as written, would take an excessive amount of manpower commitment. Every recorded event should not be used for model validation because of the number of events that are recorded.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name: **Transmission Subcommittee**

Lead Contact: Robert E. Reed

Contact Organization:

Contact Segment:

Contact Telephone: (610) 666-8862

Contact Email: reed@pjm.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Francis J. Halpin			
Daniel E. Cooper			
Kenneth A. Donohoo			
Michael F. Gildea			
Tom J. Mallinger			
Darrick Moe			
Thomas R. Stuchlik			
Roman Carter			
David H. Thorne			
Robert W. Waldele			
Susan L. Morris			
Raymond Palmieri			
Edward C. Pfeiffer			
Thomas J. Vandervort			

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The Transmission Subcommittee compliments work and effort by the Phase III and IV Standard Drafting Team. The Transmission Subcommittee supports the draft standards within the Phase III and IV Standards SAR. Please consider the following comments that the Transmission Subcommittee asks or suggest to clarify or enhance the respective draft standards.

VAR-001-1, A. Introduction, 4. Applicability, TS recommends adding "4.3. Transmission Service Provider" - TS: TSP is used in R4.

VAR-001-1, R3, TS recommends adding language for technical accuracy as follows: Each Transmission Operator shall "maintain a list of synchronous generators and shall (add)" specify a voltage or reactive schedule . . .

TS Recommends Defining "Reactive Capability of Generating Unit(s)" - TS does not offer a recommendation for the definition.

TS Recommendation: Once "Reactive Capability of Generation Unit(s)" is established the criteria needs to be defined to coincide with R3 when the voltage and reactive schedule is not maintained by each generator within the reactive capability of the unit. Does the PRC-019 capture the reporting requirements?

TS Recommends Defining "Voltage Schedule" as "Voltage Schedule - A voltage range or set-point as a specific bus."

TS Recommends Defining "Reactive Power Schedule" as "REactive Power Schedule - A reactive power range or set-point at a specific location(s)."

TS recommends deleting R3.1, with additional language inserted into R3, see R3 comment above.

VAR-001-1, R8.1., TS recommends the following language change: Each Transmission Operator "disperse and locate (delete)" "direct the operation of (add)" of reactive resources so that . . .

VAR-001-1, R9., TS recommends evaluating TOP-004-0 to determine if this requirement is captured within the IROL and SOL requirements. Consider incorporating the necessary language into the TOP-004 standard and deleting R9.

VAR-001-1, R9.1, TS recommends moving R9.1 to R10.1, since it is more appropriate under R10.

VAR-001-1, R9.2, TS recommends deleting R9.2, since it is essentially captured in VAR-002-1.

VAR-001-1, R11.2, TS Comment: R11.2 doesn't seem to have a valid purpose. R11.2 should either be deleted, or language should be added to clarify its purpose/intent.

VAR-001-1, R12, TS recommends evaluating TOP-004-0 to determine if this requirement is captured within the IROL and SOL requirements. Consider incorporating the necessary language into the TOP-004 standard and deleting R12.

TS Recommends Defining "NERC" as it is used throughout the standards. Use M1, above, as an example. The TS does not offer a "NERC" definition.

TS Observation: There are requirements that do not have measures. The TS was under the impression that all requirements needed to have measures to meet the criteria of the Standards Process Manual.

VAR-001-1, M4, TS Recommendation and Consideration: TS Recommends adding M4 as follows: "M4. In the event a voltage collapse occurred on the bulk electrical system under the control of the Transmission Operator during the performance period, the Transmission Operator shall produce documents, within 7 calendar days, demonstrating the actions it took under VAR-001-1, R2, R6, R8, and R12, in an effort to prevent the voltage collapse."

VAR-001-1, M4, TS Consideration: TS recommends evaluating Measure M4 for inclusion within TOP-004, and remove the measure from this standard.

VAR-001-1, D. Compliance, 2.4., Level 4: TS recommends adding the following second paragraph to VAR-001-1, 2.4., "In the event a voltage collapse occurs, if the Transmission Operator has inadequate documentation demonstrating it took proper preventative actions under VAR-001-1, R2, R6, R8, and R12."

VAR-001-1, Compliance, 2.4., Level 4, TS Consideration: TS recommends evaluating Compliance Level 4 language for inclusion within TOP-04 and remove the Level 4 language from this standard.

VAR-002-1, R2, TS suggests the last part of R2 is assumed to be within the proposed R2 language and recommends the R2 language be modified as follows: Each Generator Operator shall maintain the synchronous generator voltage or reactive output "within the reactive capability of the unit as "specified (delete)" "directed (add)" by the Transmission Operator. "unless otherwise approved by the Transmission Operator. (delete)."

VAR-002-1, R3, TS recommends referencing "within 30 minutes" be anchored to a start time, end time, or another reference point. By itself, the "within 30 minutes" is ambiguous.

TS Consideration: The TS is concerned that this standard may not be the most optimal location for "documentation and reporting" requirements. If the reporting criteria is contained within a "Documentation and Reporting" standard, then the respective requirements should be deleted from this standard. (example: VAR-002-1, R3)

VAR-002-1, M2, TS Recommendation: M2 lacks a "within X amount of time" that other measures contain. To be consistent with other standards, a reporting window should be included.

VAR-003-1, R2.2., TS recommends rewording the R2.2. language as follows: The Transmission Planner and Planning Authority shall each perform this assessment at least once every "five (delete)" "three (add)" years or as required by "significant (add)" changes in system conditions "which may affect static and dynamic reactive power requirements. (add)"

VAR-003-1, R2.2., TS Consideration: The term "changes in system conditions" is very liberal. TS recommends defining these changes as being significant to the assessment study (e.g. load growth, generation additions, dynamic and static reactive power additions or deletions, changes in operations, etc.).

VAR-003-1, M1: TS believes that M1 requirement to provide evidence within "3 calendar days" is a typographical error and actually is "30 calendar days." TS believes 30 calendar days is a realistic time span for a request-documentation reporting window.

VAR-003-1, M3: TS recommends an assessment every three years to coincide with recommended "three years" in R2, above.

VAR-004-1, R2: TS recommends considering combining R2 and R3. This can be accomplished by the addition of "variances" to R2 and deleting R3.

VAR-004-1, R2 and R3: TS recommends defining "variance" and "exemption" as used within the standards. The proper location for the definitions is within the Glossary of Terms. This will eliminate ambiguous interpretations of what is meant by variances or exemptions. The TS does not offer a recommended definition for either term.

MOD-023-1, R1.2.: TS recommends putting more emphasis on performance tracking and testing. Relying on manufacturer data, simulation, and analysis, may not generate enough data.

MOD-023-1, R1.4.1., and R1.4.2.: TS recommends linking these two requirements. Currently there is no linkage between voltage and reactive power testing.

MOD-023-1, R2, and M2.: TS recommends including Transmission Operator within R2 and M2.

MOD-024-1, Introduction, 4. Applicability, TS recommends adding "Regional Reliability Organization."

MOD-024-1, R2.1.: TS Recommends defining or give some indication what the acceptable power factor level is and define the summer and winter peak demand time-frame.

MOD-024-1, R2, and M2: TS recommends including the Transmission Operator in both R2 and M2.

MOD-024-1, Requirements, Recommend establishing linkages between standards. In this particular standard, there appears to be a link between MOD-023-1 and MOD -024-1.

MOD-025-1, Introduction, 4. Applicability, TS recommends adding "Regional Reliability Organization."

MOD-025-1, Requirements, Recommend establishing linkages between standards. In this particular standard, there appears to be a link between MOD-023-1 and MOD-025-1.

PRC-019-1, M1, TS recommends including Generator Operator in M1.

PRC-020-1, R2: TS recommends including criteria to waive PRC-020 requirements from those RROs that do not have or need Under-Voltage Load Shedding (UVLS) programs. Also, the TS recommends using language that is consistent with PRC-021, and PRC-022, that applies the PRC-020 requirements to the RROs whose Transmission Owners, Transmission Operators, Load-Serving Entities, and Distribution Providers "that owns or operates an UVLS program."

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Joseph F. Buch
Organization:	Madison Gas and Electric Co.
Telephone:	608-252-7965
Email:	jbuch@mge.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input checked="" type="checkbox"/> 4 - Transmission-dependent Utilities
<input checked="" type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>The standard has no criteria for how often the testing must be done. It also does not recognize the differences between base load units and units which are seldom run. There are significant costs to test & we question the reliability benefits of testing all the units annually, especially those units which seldom run. In addition the standard indicates that the testing is to be done at the power factor levels expected. Nothing in the standard indicates who or how the "power factor levels expected" is to be determined. As a generator owner we cannot recommend approval of a standard for which we do not know what testing we are going to have to perform.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	See comments on MOD-024-1 regarding testing frequency and methodology. Also the standard indicates that the maximum sustainable reactive power capability both lagging and leading be determined. Operating units with reduced excitation to determine maximum leading vars creates a risk of potential damage to the unit by having the unit pull out of step. It is recommended that this standard undergo field testing to better define the requirements. At the same time the cost versus reliability benefits for testing small units (<50 MW) should be evaluated.
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The standard requires verification of the data but does not spell out what the data is or how it is to be verified. It also requires open circuit test response chart recordings but does not spell out who's responsible for developing the test. In addition it requires excitation system model data and verification without indicating the type of model. It is recommended that this standard undergo field testing to better define the requirements. At the same time the need to provide data on small units (<50 MW) or those with manual operation should be evaluated. Units on manual operation, or small units likely provide little if any benefit and the cost of testing needs to be justified.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 indicates that the generator owner is to provide information on the generator response to frequency transients, however, no information on what constitutes a frequency transient is provided. R2.2 indicates that the generator owner is to provide verification of the frequency response however no indication of test criteria is provided and no information on what sort of time resolution for plotting frequency vs load change is provided. Information on older or small units may not be available. It is recommended that this standard undergo field testing to better define the reqrmnts. At the same time the benefits of providing data on small units (<50 MW) or those of older vintage should be evaluated).</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)	III.C.M11 – Analysis of misoperations of generator protection equipment	Merged into existing PRC-004: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The requirements and measures state that the protection system owner shall(has) develop(ed) and impement(ed) a mitigation plan to avoid future misoperations. One can learn from the misoperation and implement a plan to prevent misoperations of a similar nature. However not all misoperations can be prevented. Suggest that this be reworted to state "..shall develop and implement a mitigation plan to prevent or reduce the frequency of occurrence of misoperations of a similar nature.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	With possibly only a few minor changes this standard should be able to be implemented per the schedule proposed.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Generation to transmission interconnection agreements on var output may preclude field demonstration of the capability curve and the standard should recognize these occurrences. Also, while the standard provides for a 5 year phase in of the requirements, thereafter annual calendar year evaluation seems excessive. The capabilities of the units tend to be quite stable with little change over time. The need for annual evaluation should not be required. As part of the phase in period, the provision for field testing of this standard should include analysis of exceptions to these requirements for selected generators (<50 MW) or those of older vintage).

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>This new standard requires the region to define temporary excursions and the requirement that generators stay connected during these temporary excursions. The excursions have not been defined nor has any provision been made for exceptions. As a generator owner we cannot recommend approval of a standard for which we do not know what will be required or what testing we are going to have to perform. The entire area of risk of machine damage versus different temporary system excursions and costs of testing needs careful investigation. It is recommended that this standard begin with a pilot of selected units followed by field testing to better define the requirements.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
VAR-004-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>This entire area of generator performance during temporary voltage and frequency excursions needs careful and detailed analysis so that requirements are not established which risk damaging machines. It is recommended that a pilot of several units be undertaken before beginning field testing. In addition we question if the costs of testing small units outweighs the benefits.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name: **Resource Issues Subcommittee**

Lead Contact: Scott Helyer, Chairman

Contact Organization: NERC

Contact Segment:

Contact Telephone: (817) 462-1512

Contact Email: shelyer@tnsk.com

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>1) In R11, Transmission Operators and Balancing Authorities should not take any action until coordination is made with their Reliability Coordinator(s). Suggest changing R11 to "Following a disturbance in which one or more area of the Bulk Electric System becomes isolated or blacked out, the affected Transmission Operators and Balancing Authorities shall begin immediately to implement the following steps:"</p> <p>2) In Compliance Section 2.4.2, suggest deleting "regional".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The language in MOD-024-1 and MOD-025-1 seems to be duplicative, and consideration should be given to combining MOD-024 and MOD-025 into one standard. Generator Owners cannot respond to -024 and -025 independently. The standard should consider requiring the GO to verify the "D" Curve capability.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The language in MOD-024-1 and MOD-025-1 seems to be duplicative, and consideration should be given to combining MOD-024 and MOD-025 into one standard. Generator Owners cannot respond to -024 and -025 independently. The standard should consider requiring the GO to verify the "D" Curve capability.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>1. R5 should allow for alternatives to the open-circuit step response test, such as on-line transient data collection methods.</p> <p>2. RIS believes that consideration should be given in this standard to collecting the appropriate data to verify that units will perform as simulated. All of the information requested in R3 may not be necessary, and should not be required unless specified by the Region.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Consider combining R1 and R2, as they seem to overlap.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1. The generator requirements in VAR-001-1 should be removed and placed into VAR-002-1 and/or VAR-001-1 should refer to the generator requirements in VAR-002.</p> <p>2. The Region should be given the flexibility of determining the application of this standard to the size, type, and location of generation.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<ol style="list-style-type: none"> 1. The 30 minute notification period of R3 may be too short for some small or remote generators. Suggest adding a clause "or other period agreed to by the TO". 2. R3 should be redrafted to make clear what is being required. R3 could be interpreted to mean that the GO is required to report to its TO within 30 minutes from the time that the TO requests a report, as opposed to 30 minutes after the GO cannot maintain a voltage schedule. 3. The accumulation of 8, 16, and 24 unit-hours used to determine Levels of Non-Compliance do not specify the time period over which they accumulate. 4. What is the basis for the unit-hour breakpoints in the Compliance Section and are they reasonable across the various regions of NERC? 5. Exemptions to R1 should be allowed for planned startup and shutdowns. 6. Recommend striking reference to auxiliary transformers from all sections of the standard. 7. Add to R4 - Prior to agreeing to changes in the main step-up transformer tap settings, the Generator Operator shall consider and plan for changes to those settings and adjust auxiliary systems as necessary. 8. Please clarify that R3 does not require the GO to monitor grid voltage every 30 minutes. The GO should monitor its adherence to the TO's voltage schedule.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	ID.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-26-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Since these generator tests will take significant time and manpower to accomplish, field testing is recommended to verify these tests produce reasonable model improvements (particularly the tests required in R5).
MOD-25-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Samuel W. Leach	
Organization:	TXU Power	
Telephone:	214 812-8370	
Email:	sam.leach@txu.com	
NERC Region		Registered Ballot Body Segment
<input checked="" type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The development of this translation will need to be flexible enough to address problems associated with verification of required parameters on older generation equipment. In some cases, the best available information may be the original manufacturer's design data.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The overall excitation system response values can be tested and verified. However, it can be very difficult and sometimes impractical to verify individual regulator and PSS subsystem components. Manufacturer design constants should be accepted where verification testing is impractical.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The proposed standard should be more specific as to acceptable method or methods to be used to provide verification of the speed/load governor characteristics.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **Multi-regional Modeling Working Group**

Lead Contact: Mark Kuras

Contact Organization: MAAC

Contact Segment: 2

Contact Telephone: 610-666-8924

Contact Email: kuras@pjm.com

Additional Member Name	Additional Member Organization	Region*	Segment*
S.C. (Rao) Somayajula	ECAR	ECAR	2
Robert J. O'Keefe	AEP	ECAR	1
A.G. (Fred) McNeill	Progress Energy	FRCC	1
Ganesh K. Velummylum	PJM	MAAC	2
Rick Foster	ILLINOIS POWER COMPANY	MAIN	1
Larry E. Brusseau	MRO	MRO	2
Donal Kidney	NPCC	NPCC	2
Lee Adams	PROGRESS ENERGY CAROLINAS INC.	SERC	1
Kirit Doshi	Dominion Virginia Power	SERC	1
Harvey B. Scribner	SPP	SPP	2
Alexander W. Schneider, Jr.	MAIN	MAIN	2
Godfrey Chibulunje	NPCC	NPCC	2

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments.
Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This well-intentioned standard should be deleted, because the extent of engineering judgment which must be used to determine which disturbances need to be simulated, what results should be retained for general use, and the methods to be used cannot be objectively audited for compliance. We recommend that this information be retained as a guide. The proposed standard belittles the often complex issues and significant time involved in replicating system disturbances and determining the most appropriate modeling enhancements to achieve reasonable matches. Simulation and analysis of every recorded disturbance should not be required, and not every analysis will provide useful data for model validation. Exercise of judgment to determine which disturbances are worthy of an event replication effort must be allowed. Regions and transmission owners may need to set priorities because of the volume of events that may be recorded. Because these points are not recognized by the standard as written, it would mandate an excessive manpower commitment. Furthermore, unintended compliance problems may arise when disturbances are either not adequately recorded or are too localized in nature to justify the time and expense to replicate. Where model changes are identified and it appears appropriate to include them in base case data, there should be review at the Regional level to insure that problems are not created for simulation of other future events. It may not always be desirable to include all improvements in system data necessary to replicate a given disturbance into general purpose base cases. There must be allowance to</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R 1.2 should add ...use of... before ...manufacturer data.... Measurement 3 is redundant with Measurement 1 and should be deleted. The only adequate way to verify governor and excitation systems, including voltage regulator controls, limiters, compensators, and power system stabilizers, is testing. The term ...verify... is too vague; therefore we propose to change ...verify... or ...verification... to ...test or otherwise demonstrate... throughout the standard.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The term ...verify... is too vague; therefore we propose to change ...verify... or ...verification... to ...test or otherwise demonstrate... throughout the standard. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>The term ...verify... is too vague; therefore we propose to change ...verify... or ...verification... to ...test or otherwise demonstrate... throughout the standard. Add ...leading and lagging... after ...reactive power capability... in R1. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>The main issue remains whether or not to require testing of generating unit excitation systems. The term ...verify... is too vague and seems to invite either confusion or continuation of the status quo. Some units need to be tested and others don't. An example of a determining factor for testing is whether a unit is stability constrained or its participation in poorly damped power swings. The listing under R3 is a hodge-podge of qualitative and numerical responses. The list neither requires that the excitation system model conform to IEEE Standard 421.5, nor that simulation code to implement non-conforming models be provided and documented. If no IEEE standard or PSSE or PSLF/PSDS standard library model adequately represents excitation system response, the generator owner should be required to have a user-defined model written and validated and provide documentation to the user community. The generator owner must be required to demonstrate that the model and parameters provided under R3 will simulate a response corresponding to the test charts of R4 or R5. In many cases generator owners may not have expertise to conduct any independent review of vendor data, particularly to determine whether any device settings have changed sufficiently to affect vendor estimates of model parameters but this does not relieve them of the responsibility to provide an adequate simulation model. A periodic review or retesting interval should be specified for parameters affected by field adjustable settings. Change Data Retention text to require that the Generator Owner shall retain commissioning and test reports and data as long as either (1) the</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Recommended new R3 - The Generator Owner shall provide the TP with information on any under frequency protection set at frequencies at or above the lowest stage of regional UFLS trip settings. Recommended new R4 - If the governor and prime mover model does not conform to an IEEE standard or PSSE or PSLF/PSDS standard library model, generator owner shall be required to have a user-defined model written and validated. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard is redundant with MOD-013-0 and should be deleted. Power electronic control devices should not be treated differently from other devices. If this standard is not deleted, it should be revised to require demonstration that the model adequately reproduce the dynamic response of the device and that user documentation be provided. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	For existing units, this standard, in fact, deals with generator protection or how the generator is protected. In other words, when will a generator trip during excursions of frequency or voltage. For new units, the establishment of regional requirements will help generation developers purchase equipment to conform. Frequency issues: Exemption criteria - There must be coordination with UFLS in all instances where generation could trip prior to last stage of UFLS. What is the difference between an exemption in R2 and a variance in R3?

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
I.D.M2 – Coordinate and optimize the use of generator reactive capability	Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
I.I.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies	Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	We are recommending deletion of MOD-028 as we see no need to deal with these devices specially. That is the only place this term is used; therefore we see no need for this definition.

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM

Phase III-IV Planning Standards Not Developed in Version 0 Reliability Standards

This form is to be used to submit comments on the four SARs to translate the Phase III-IV Planning Standards that were not developed in the Version 0 Reliability Standards project. Comments must be submitted by **January 7, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words "Phase III-IV Planning Standards" in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net on 609-452-8060.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	William J. Smith	
Organization:	Allegheny Power	
Telephone:	(724) 838-6552	
Email:	wsmith1@alleghenypower.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to the four SARs proposing to develop reliability standards to replace the Phase III-IV Planning Standards that were not developed in the Version 0 Reliability Standards. The scope of work is focused on translating the existing planning standards that were not included in Version 0, not on developing new standards. The four SARs are as follows:

Disturbance Monitoring and Reporting

Modeling

Protection and Control

Black Start Capability

Question 1: Scope of Work

Do you agree that the list of planning standards and measures indicated in the four SARs, taking in to consideration the standards already developed in Version 0, would complete the translation of all existing planning standards?

Yes.

No.

Comments

Question 2: Reliability Need

Do you agree there is a reliability need for all of the standards proposed in these four SARs? If you have any concerns regarding reliability need, please note them in your comments.

Yes.

No.

Comments

Question 3: Grouping of the Standards for Development Purposes

Because the proposed scope of work is large, the requester has grouped the proposed standards into four SARs. Do you agree this is an appropriate way to organize the work? What improvements would you suggest to grouping the development work?

Yes.

No.

Comments

Question 4: Challenges to Achieving Consensus

Some of the proposed standards may require more work than others to reach industry consensus on approving the standards. Please rate each proposed standard below by indicating the level of difficulty you foresee in achieving consensus on the standard. Please indicate specific challenges you think must be overcome to complete the standard and achieve industry consensus.

Difficulty Reaching Consensus	Topic	Challenges to Overcome to Achieve Consensus
SAR- Disturbance Monitoring and Reporting		
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	I.F.S1.M2, List of monitoring equipment installations & operating status	
<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Difficult	I.F.S2.M3, Disturbance monitoring data reporting Requirements	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	I.F.S2.M4, Recorded fault and disturbance Data	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	I.F.S2.M5, Use Database	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.D.S1.M2, Reporting procedures that ensure against double counting or omission of customer demand data	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.D.S1-S2.M3, Procedures requiring consistency of data reported for reliability purposes and to gvt agencies	
<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S6.M10, Procedure to monitor/ review/ analyze/ correct trip operations of generator protection equipment	
SAR - Modeling		
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	I.D.S1.M1, Assessment of reactive power resources	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	I.D.S1.M2, Generator reactive power capability	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.B.S1.M1, Procedures for validating generation equipment data	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.B.S1.M2, Verification of gross and net dependable capability	

<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.B.S1.M3, Verification of gross and reactive power capability of generators	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.B.S1.M4, Test results of generator voltage regulator controls and limit functions	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.B.S1.M5, Test results of speed/load governor controls	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.B.S1.M6, Verification of excitation system dynamic modeling data	
<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.E.S1.M1, Plans for the evaluation and reporting of voltage and frequency characteristics of customer demands	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.E.S1.M2, Documentation of requirements for determining dynamic characteristics of customer demands	
<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Difficult	II.E.S1.M3, Customer (dynamic) demand data	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S1.M1, Procedure by system operator for reporting operation without automatic voltage control mode	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S1.M2, Log of operation without automatic voltage control mode by generator owner	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S2.M3, Documentation of schedule for maintaining network voltage	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S2.M4, Log operation not maintaining network voltage schedules	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S2.M5, Reporting procedures for tap settings of generator step-up and auxiliary transformers	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S2.M6, Tap settings data of generator step-up and auxiliary transformers	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S2.M7, Requirements for withstanding temporary excursions in frequency, voltage, etc.	

<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S4.M8, Information on generator controls coordination with unit's short-term capabilities and protective relays	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S5.M9, Information on speed/load governing system	
SAR – Protection and Control		
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.A.S2.M2, Redundancy requirements for transmission system protection	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.B.S1.M1, Assessment of reliability impact of transmission control devices	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.B.S1.M2, Transmission control device models and data	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.B.S1.M3, Periodic review & validation of settings & operating strategies	
<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S6.M10, Procedure to monitor/ review/ analyze/ correct trip operations of generator protection equipment	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.E.S1-S2.M1, Documentation of undervoltage load shedding program	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.E.S1.M2, UVLS Regional Database	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.E.S1.M5, Analysis & documentation of UVLS event	
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	III.C.S7.M12, Maintenance / testing Program of generation equipment protection systems	
SAR – Black Start Capability		
<input type="checkbox"/> Easy <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Difficult	IV.A.S1.M2, Demonstrate by simulation and testing blackstart unit can perform its function	The difficulty in achieving industry consensus will depend how "simulation or testing" clarified. The definition of this phrase can have financial impact.
<input checked="" type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	IV.A.S1.M3, Diagram blackstart units and initial switching	

<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	IV.B.S1.M1, Document automatic load restoration (ALR) programs including database	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	IV.B.S1.M2, Document auto load restoration program with regional requirements	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	IV.B.S1.M3, Assess effectiveness of automatic load restoration programs	
<input type="checkbox"/> Easy <input type="checkbox"/> Medium <input type="checkbox"/> Difficult	IV.B.S1.M4, Document auto load restoration equipment testing and maintenance program	

Question 5:

Please provide any additional comments you have regarding the proposed development of Phase III-IV planning standards that were not developed in Version 0.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
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Do submit any formatted text or markups in a separate WORD file.

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Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 has not been fully translated into R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, it is important that serious consideration should be given to blackstart testing more frequently than "at least every five years". Simulation of unit testing should not be allowed and there should only be a requirement to test the Units at least once every five years and any blackstart related facility on an annual basis.</p> <p>Drafting Team to clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p> <p>Suggestion to reformat the restoration plan requirements as separate bulleted subrequirements and then reformat the Blackstart unit testing section into subRequirements for clarity.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.5 the use of the actual and forecast data as directly provided by the LSE must be analyzed to ensure it is properly aggregated to reflect coincident peak demands for system modeling and reliability analyses. It is suggested that the word "incorporate" be used instead of "use" in that Requirement.</p> <p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Suggested change to R1; should specify the type of disturbances which are required to validate models.</p> <p>Also change;</p> <p>"..to develop, maintain, and enhance steady-state and dynamic models."</p> <p>to</p> <p>"..to enhance analysis of wide area system disturbances and validate system simulation models.</p> <p>In addition this may be more appropriate to be a Guide rather than a Standard as the inclusion of all system disturbances in the validation of system models seems onerous and unmeasurable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>R1.2, change;</p> <p>"Acceptable methods.."</p> <p>to</p> <p>"Guidelines for methodology.."</p> <p>In R1.4.2 we request the drafting team to define "gross and net reactive power capability".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	NPCC Participating members suggest that development of this standard be deferred. Although NPCC believes this to be an important issue, reactive resource requirements are presently being developed at the FERC and until such Criteria has been developed and agreed upon this standard should be tabled. Until the above is accomplished the current practices the Regions are pursuing should be maintained. In addition, due to the local nature of reactive capability, only local and Regional Criteria should apply. (rearrange)

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>NPCC participating members believe that although in concept that collecting this information has value, the actual testing required to validate the parameters could be a detriment to reliability. (Needs WORK however doesn't apply to the RRO)</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Drafting Team to verify that the testing requirements that appear in the "S" language in the original Standard, has been dropped, was this intentional?</p> <p>There is also an analysis currently underway regarding the response of unit governors on August 14 and also how they relate to existing system models (?) (Kathleen check with Mike).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Power Transmission.</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Power Transmission.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R1.2 NPCC participating members suggest that documentation of specific maintenance Criteria be defined by the Regions.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	NPCC Participating members believe the intent of this Standard has gone beyond the scope of the original Planning Standard IICM8 and recommends it be remanded back into the SAR process as a new standard, and removed from this set.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Power System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Power System.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The M1 response time should be 30 days, not 3 ?
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Typo in "Proposed Effective Date" November.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Capture pre-fault information.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>NPCC participating members suggest that the effective date to comply with the Standards be 6 months from the date of their adoption by the Board. The NPCC participating members feel that all the standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have some laudable reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

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Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: " This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	TIS has no additional comments.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>TIS requests that MOD-022 clarify what disturbances trigger the requirement for the PA or TP to validate models using recorded data.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 requires the GO to verify according to RRO requirements. The RRO requirements should require physical testing of the generator to the extent testing can be accomplished without a threat to the generator. MOD-025 should provide guidance to the RRO, and provide for NERC review of RRO procedures.</p> <p>The standard should establish a maximum five year period for verification of capabilities, unless there is a change in equipment or a setting change, at which time the generator should be retested.</p> <p>The NERC Board approved the TIS recommendation in its response to blackout recommendation 7a that at continuous rated power output, future generators should have an overexcited power factor capability, measured at the point of interconnection with the transmission system, of .95 or less and underexcited powerfactor of .95 or less. If a generator does not meet this requirement, the generation owner should make alternate arrangements (e.g., Statcoms, SVC, etc.) for supplying an equivalent dynamic reactive power capability or meet this requirement. This requirement should be incorporated into MOD-025-1 or VAR-003-1, as appropriate.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is the potential for wide variance in verification procedures among RROs. The RRO requirements should require physical testing of the generator excitation system. This standard should include a requirement for NERC review of the RRO's verification procedures.</p> <p>The standard should establish a maximum five year period for verification of capabilities, unless there is a change in equipment or a setting change, at which time the generator excitation system should be retested.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The standard drafting team should ensure that control models and data for more traditional devices such as switched capacitors are covered in other standards.</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>TIS agrees with PRC-020-1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This standard should clarify the scope of UVLS systems covered. This standard should not include localized UVLS schemes.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This standard should clarify the scope of UVLS systems covered. This standard should not include localized UVLS schemes.</p> <p>R1.3 currently could result in unnecessary simulations. R1.3 should be modified to state that simulation of events should be as deemed appropriate by the RRO.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2 should clarify that the Contingency conditions are those contingencies described in Table 1 of NERC standards TPL-001, 002, 003, and 004.</p> <p>"synchronous" should be removed and R3 should apply to all generators.</p> <p>R8 only refers to first contingencies. The drafting team should confirm whether that is the intent of this Requirement.</p> <p>R12 should provide guidance to the TO on anticipating contingencies, such as Category D from Table 1 of the TPL standards, that could lead to voltage collapse.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Remove reference to "synchronous" throughout the standard.</p> <p>Clarify that R1 applies to all generators capable of automatic mode AVR operation.</p> <p>The translation table refers to R6, which is not in this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>R2.2 should state that assessments should be performed at least every two years, rather than five years.</p> <p>As approved by the NERC BOT, TIS recommends that Standard I.D guidelines G2 and G3 should be incorporated into this standard as follows: Distribution entities and customers directly connected to the transmission system should plan their respective systems to operate close to a specified power factor; and, at continuous rated power output, new generators should have an overexcited power factor capability, measured at the point of interconnection with the transmission system, of 0.95 or less and underexcited power factor of 0.95 or less. If a generator does not meet this requirement, the generation owner should make alternate arrangements (e.g. Statcoms, SVC, etc.) for supplying an equivalent dynamic reactive power capability to meet this requirement. (The drafting team should coordinate the generator power factor requirement with MOD-025-1.)</p> <p>M1 should refer to 30 calendar days, not 3.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There may be an inconsistency between dropping this standard and the requirement of MOD-022-1 to use recorded data to develop and enhance steady state and dynamics models. That requirement appears to assume that there are adequate dynamic demand models. This discrepancy should be recognized in requirements of MOD-022-1 and future standards should address this discrepancy.</p>
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Modify as follows: "electrical data immediately preceding and during a Disturbance"
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

1. In general, there should be field testing of these Phase III/IV standards to ensure the validity of the requirements, as was done for the Phase I and Phase II standards.

2. The requirement for the RRO to present its procedures to NERC for review should be consistent throughout these standards.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Peter Burke	
Organization:	American Transmission Company	
Telephone:	262-506-6863	
Email:	pburke@atcllc.com	
NERC Region	<input type="checkbox"/>	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input checked="" type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	V1 of this standard should be enhanced to include Measures that address all the Requirements R1--R11 comprising it. While the translation of IV.A.M2-M3 resulting in R8, R9, R10 and M1-M2 is acceptable, not fixing the pre-existing deficiencies (i.e. absence of any Measures) in the V0 standard makes the resulting EOP-005-1 an incomplete V1 revision.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The formatting of and the number of Requirements and Measures listed in the clean Draft1 standard document is inconsistent with the translation mapping document. The version in translation mapping document is more acceptable since it is a better translation.</p> <p>Agree with removing Planning Authority as applicable entity and making this standard applicable to RRO only.</p> <p>A.3 Suggest adding interruptible load. R1.3 Suggest adding available trip speed of DSM load and adding amounts, location, and available trip speed of interruptible load.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>While we agree that this standard has a reliability need, its intended purpose would not be met until the following deficiencies in the existing translation are addressed: (A) it requires the TP/PA to improve the models in an MMWG simulation case using recorded disturbance data --- however, such an activity requires coordination between TOs/GOs/TPs/PAs in a Region and, therefore, should more appropriately be accomplished at the RRO level (as is practiced in WECC); (B) it requires TP/PA to improve the dynamic modeling data based on simulation/recording comparison..... but dynamic models and associated data for generators/exciters/governors are provided by GO's, and any dynamic load representation would be provided by LDC's --- so there is little dynamic model updating that can be done autonomously by the TP/PA, unless the RRO coordinates such activity. (C) Defining the threshold of significant disturbance that merits model validation efforts is difficult to prescribe in a standard, and should be at the discretion of the RRO. (D) DME output data and an MMWG model are insufficient inputs to validate a model. Pre- and post-disturbance models that reasonably represent the actual system topology are necessary. Expectations to ensure such models are available should be included in the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We do not agree that all the model and data verification methods listed in R1.2 are acceptable options for each class of generation equipment parameters listed in R1.4.1 thru R1.4.4. As a Transmission Operator and Transmission Planner responsible for bulk electric system reliability, we consider Testing and Performance Tracking to be the only acceptable verification methods to demonstrate the actual real and reactive power capability (R1.4.1 and R1.4.2) of a generator. Note that in MAIN region the generators are required to test their reactive capability at least every 5 years "to demonstrate that the actual operating reactive capability of each generating unit and synchronous condenser is consistent with the modeling used in planning and operating studies." For R.1.4.3 and R.1.4.4 (governor controls and excitation systems modeling data), we advocate testing, performance tracking and manufacturer's data as preferred verification methods, which could be supplemented with simulation and analysis, when necessary.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.3 Recommend that acceptable methods of verification in RRO procedures are limited to Testing or Performance Tracking only (see comment for MOD-023).</p> <p>Title of standard should be changed to replace the word "dependable" with "sustainable" to be consistent with R1.</p>
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 Add 'ambient temperature' to the list of factors affecting the max. sustainable reactive power capability curve (in addition to real power output and terminal voltage).</p> <p>The translation mapping document includes R2.4, but the clean Draft1 standards document has the same requirement numbered R3. Recommend addressing this inconsistency by retaining the requirement as R2.4 (to be consistent with numbering used in MOD-024).</p> <p>R3 or R2.4: Recommend that acceptable methods of verification in RRO procedures are limited to Testing or Performance Tracking only (see comment for MOD-023).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2: Should this read ".. shall verify the data submitted for use in dynamic models.." ?</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1. After "transients", add "and be sustained while frequency remains off nominal" R2. Change "within 30 days" to "within 30 calendar days"</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Following are suggested changes to various elements of this standard: A.3 "...models and data are provided to the Transmission Planner and Planning Authority..." (since PA is also responsible to perform assessments required per TPL-001 through TPL-004). R1.1 ...models, data, proposed settings, and any proposed operating strategies... R1.2 ...models, data, applied settings, and any adopted operating strategies... R2 ...at least every five years. M1.1 ...provided preliminary models, data, proposed settings, and any proposed operating strategies to TP and PA... M1.2 ...provided preliminary models, data, proposed settings, and any proposed operating strategies to TP and PA... M2 ...operating strategies within the last five years... D2.2 ...evidence of MOD-028 M1.1 or MOD-028 M1.2 were not provided... D2.3 ...proposed settings and any proposed operating strategies were not provided to TP and PA...to allow analysis before... D2.4.1 ...proposed settings and any proposed operating strategies were not provided to TP and PA... D2.4.2 ...applied settings and any adopted operating strategies were not provided to TP and PA...</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Inconsistent Language in R1.1.1: Note that the phrase "as applicable" is used in the translation mapping document , but the phrase "as appropriate" is used in the clean Draft1 standards document</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There could be value in having a Regional UVLS program, similar to the existing Regional UFLS programs in place. Having a set of comprehensive standards that define consistent requirements for all entities participating in a coordinated Regional UVLS program may require a thorough review and revision of the entire existing set of UVLS standards (PRC-020, PRC-021, PRC-022, PRC-010 and PRC-011). However, a regional database could be useful, irrespective of whether a Regional UVLS program exists or not. Note that the regional database allows interested entities (TP, PA) to verify the coordination of their UVLS systems with others.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>May need to be revised to address comments on PRC-020 for Regional UVLS program.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>May need to be revised to address comments on PRC-020 for Regional UVLS program.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>We fully support moving R9.1 and R9.2 to VAR-002.</p> <p>V1 of this standard should be enhanced to include Measures that address all the Requirements R1--R12 comprising it. While the translation resulting in R3, R10, R11 and M1-M3 is acceptable, not fixing the pre-existing deficiencies (i.e. absence of any Measures) in the V0 standard makes the resulting VAR-001-1 an incomplete V1 revision.</p>
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>Move VAR-001 R9.1 and R9.2 to VAR-002 so that all Generator Owner requirements are together.</p> <p>Revise M3 to contain "available upon request"</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>R2.2 Suggest more frequent assessments, such as at least every three years</p> <p>M1 ...NERC within 30 calendar days...</p> <p>M2 Suggest assessment within the past three years</p> <p>D1.3 ...Compliance Monitor shall retain any audit data for at least five years. [three year is okay, if M2 is within the past three years]</p> <p>D2.2 What is the definition of an area?</p> <p>D2.3 R1 does not require review within the past five years</p> <p>D2.4 What is the definition of areas?</p> <p>Does this have to be a new stand-alone standard? It appears that the requirements lend themselves to be merged within TPL-001, TPL-002 and TPL-003.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Change proposed effective date and timeline from October 1 to November 1.</p> <p>R1. Change "interconnected" to "connected".</p> <p>R2. Change "exemptions" to "exemptions or variances" and delete R3 as it becomes redundant.</p> <p>This standard specifies requirements, criteria and procedures to be established by the RRO. Is there a standard applicable to GO's and GOp's with complementary requirements and measures? Without such a complementary standard, there is rather limited reliability benefit from implementing VAR-004.</p> <p>Why is this a VAR standard? Content is more closely related to relays and controls. Suggest re-classifying it as a PRC standard.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Suggest revisiting the need for this standard when Distribution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Include reference to the existing dynamic data requirements in MOD-012-0. Suggest revisiting the need for this standard when Distribution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.</p>
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Include reference to the existing dynamic data requirement procedures in MOD-013-0. Suggest revisiting the need for this standard when Distribution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.</p>
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Include reference to the existing dynamic data requirements in MOD-012-0. Suggest revisiting the need for this standard when Distribution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Suggest revisiting the need for this standard when Dristirbution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Suggest revisiting the need for this standard when Dristirbution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Suggest revisiting the need for this standard when Dristirbution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Suggest revisiting the need for this standard when Dristirbution Providers and Load-serving Entities are registered under the functional model and are more fully engaged the development of appropriate standards.

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-022	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The activity covered by the standard has not been a routine practice within the industry.
MOD-028	<input type="checkbox"/> Yes. <input checked="" type="checkbox"/> No.	March, 2006	Time needed to obtain and integrate PEBC models and data into simulation programs and to validate their performance.
PRC-002	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The activity covered by the standard has not been a routine practice within the industry.
PRC-018	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The activity covered by the standard has not been a routine practice within the industry. Further, this standard is dependent on successful implementation of PRC-002.
VAR-003	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		It would be unwise to require that assessment methods and criteria be established too quickly since there is presently no widely-accepted or well-proven methods and criteria in the industry.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input checked="" type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 4 2.4.2 goes beyond the elements of Requirement 9 The levels of non-compliance are difficult (and therefore subjective) to measure. Measure contains additional requirements of supplying a document within 30 days</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R2-R7 should be sub-bullets of R1. Can't tell if compliance is to be measured against R1 or R1 through R7 Standard is missing section C heading for Measures. Measure 1 adds a requirement not contained in the Requirements for this standard.
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Levels of non-compliance add additional requirements not contained in the requirements section of this standard. The levels of non-compliance are difficult (and therefore subjective) to measure Remove 30 days from M1 This is a data gathering set of requirements and should not be a compliance program concern.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 3 is measured against R1.2 but that requirement states “acceptable methods . . . but not limited to . . .”. This would imply that any method is okay so how do you measure compliance? (you can’t)</p> <p>M2 is difficult to measure.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Consider re-writing MOD-024-1 and MOD-025-1 as a single standard</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 references R 2.4 but there isn't a R2.4 M2 introduces "validation" instead of verification. Not sure if this is a change in the requirement.</p> <p>Requirement should be written to verify the generator's "D" curve and not max capability.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 is difficult to measure and may be going beyond the stated requirements. Level 3 should only reference R4</p> <p>R1 Remove the "within 30 days of a request" here and in every requirement that it shows up. Data, documentation, etc should be available whenever requested. M1 seems to go beyond the stated requirement.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 goes beyond the requirement by stating “verification”</p> <p>Level 3 can’t be measured since Requirement 1 doesn’t state what information is to be included.</p> <p>Level 4 is confusing and seems to try and catch four different elements of only two requirements</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 3 adds a new requirement of “with sufficient time” that is not part of the standard’s requirement R1.1</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The levels of non-compliance seems to be focused of making sure that as many possible things are included and not focused on which requirements are critical to reliability.</p> <p>The levels of non-compliance must be re-written to have only meaningful elements.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>If plan does not require any revisions R2 is never applicable</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>These levels are not appropriate. Compliance should be based of this standard’s requirements, which it is not.</p> <p>Either eliminate R2 and M2 or move these to PRC-003. This standard should not have requirement obligations from another standard.</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Levels 1, 2, and 3 have an additional requirement “was not on schedule” which is not part of the standard’s requirement. These statements must be removed.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Level1 references another standard. You must not judge compliance of this standard by imposing additional requirements not contained in this standard
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R 1 is incorrect: Individual generators cannot be exempt from a standard. If a region has a classification of units that the standard does not need to apply to then that classification must be shown under Section E. regional Differences.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 “was incomplete” what does this mean. This is not measurable. Also non-compliance can only be judged if NERC requests the information? If that is the case this is a data reporting responsibility but not a reliability standard.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 2 needs to be consistent with R1</p> <p>R1 states “(entity) shall annually update its UVLS data as necessary” does this mean that if it doesn’t change you don’t need to update it annually?</p> <p>This is a data reporting obligation and not a reliability standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This is an after the fact analysis. It is something that needs to be done but is not at the level of a reliability standard.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard must not include provisions of another standard as its requirements. R1 must be re-written. Also, the standard should address performance expectations and not redundancy.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Level 1 Only deals with reporting stuff and not with real-time operations.</p> <p>Level 2 Only Requirement 10 talks about exemptions.</p> <p>Level 3: unsure what is being measured. Is it any directive from the TO that is being measured versus real-time voltage/reactive? What amount of data are we talking about.</p> <p>R3 needs to be re-written to state “Each TO shall specify a voltage schedule, voltage range, Reactive schedule, or reactive range for operations to be ...”</p> <p>The standard has many good requirements. However, the measures and therefore compliance levels Any exemptions must be in the Regional Differences Section of the standard</p>
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Levels of non-compliance are adding requirements. The 8, 16, 24 hours must be removed.</p> <p>Remove “within 30 days”</p> <p>This standard seems to have very similar requirements and levels of non-compliance as VAR-001. Either eliminate the redundancy (ex. Time unit was not operating with automatic voltage regular (control) in service) between the two or combine the standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
	and auxiliary transformers (data)				
VAR-003-1 Assessment of Reactive Power Resources	ID.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Level 2 and 4: Who determines if the TP and/or PA assessment is incomplete in one area (since no areas are defined in the requirement).

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Levels need to be changed to reflect elimination of exemptions and variances.</p> <p>Exemptions to a standard must be included in the regional differences section of the standard. Otherwise there are no exemptions allowed.</p> <p>Therefore R 2, R3, and R5 (exemption and variance terms) should be eliminated</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It is not a portion of a system but a transmission facility that is used during system restoration to provide off-site power (cranking power) to a generator not able to self-start.
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	A definition should be inclusive. By stating examples you have diluted the meaning.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	A definition should be inclusive. By stating examples you have diluted the meaning.

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

NERC Standards are currently be drafted under a number of different formats. This is very confusing to the industry in trying to review the material. For example, the original Operating and Planning Templates has the standard or requirement as the high level description of the document and the measure as a more detailed discussion of what was to be done. Compliance was then based on what was being measured.

Now we are drafting the standards with all the details contained in the requirements section and the measure section merely being how the requirements are to be measured such as through demonstration of tolls, or through a review of the documentation which is described in the requirement.

The drafts of these Phase II/IV standards is a mix of both the old and the new format. Before going forward NERC needs to ensure that a single common format will be used and then have all of these documents re-drafted in compliance with that format.

Throughout these drafts, the authors have added requirements such as the document will be made available for review within 30 days of a request. If these are to be standards then each and every one of them will be reviewed on a cyclic basis. This requirement to provide a document, log, etc. within 30 days is therefore not needed and should be removed everywhere is occurs. A similar requirement to distribute document within 30 days of a change should also be eliminated.

Each of the standards should be reviewed individually and balloted individually. In fact as each standard is being posted for public comment again, the industry should be asked to approve each of the requirements contained in the standard. In that way we would no longer have a conversion of the old policies and planning standards but an industry support for the reliability requirements, and not just the general reliability standards.

The standards that delegate the real obligations/requirements to the Regions to develop need to be changed so that the requirements to be used by the region are clearly known and understood by the industry. Therefore in these Phase III/IV standards, the authors must go back and define what the sstandard requirements need to be then let any region that wishes to differ to include those differences in Section E of each standard..

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Andrew Fusco
Organization:	North Carolina Municipal Power Agency 1
Telephone:	919-760-6219
Email:	afusco@electricities.org
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input checked="" type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>NCMPA1 agrees with the need for having a standard that covers special protection systems for large generators on the transmission system. However, including small diesel generators that serve distribution systems in the scope of this standard will provide no benefits in maintaining the reliability of the interconnected transmission system. Therefore, NCMPA1 suggests stating in this standard a minimum applicable capacity for the generators and/or a minimum applicable system voltage rating on which the generator resides. A reasonable position would be to exclude generators from this standard that have capacities less than 3 MW and/or reside on a system that is rated less than 69 kV.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>NCMPA1 agrees with the need for having a standard that covers special protection systems for large generators on the transmission system. However, including small diesel generators that serve distribution systems in the scope of this standard will provide no benefits in maintaining the reliability of the interconnected transmission system. Therefore, NCMPA1 suggests stating in this standard a minimum applicable capacity for the generators and/or a minimum applicable system voltage rating on which the generator resides. A reasonable position would be to exclude generators from this standard that have capacities less than 3 MW and/or reside on a system that is rated less than 69 kV.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	NCMPA1 agrees with the need for having a standard that covers special protection systems for large generators on the transmission system. However, including small diesel generators that serve distribution systems in the scope of this standard will provide no benefits in maintaining the reliability of the interconnected transmission system. Therefore, NCMPA1 suggests stating in this standard a minimum applicable capacity for the generators and/or a minimum applicable system voltage rating on which the generator resides. A reasonable position would be to exclude generators from this standard that have capacities less than 3 MW and/or reside on a system that is rated less than 69 kV.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **Entergy Services, Inc**
Lead Contact: Ed Davis
Contact Organization: Entergy Services, Inc.
Contact Segment: 1
Contact Telephone: (504) 310-5884
Contact Email: edavis@entergy.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Kham Vongkhamchanh	Entergy	SERC	1
Richard Riley	Entergy	SERC	1
Jay Zimmerman	Entergy	SERC	1
George Bartlett	Entegy	SERC	3
Lynnda Ell	Entergy	SERC	1
Maurice Casadaban	Entergy	SERC	2
Charles Fink	Entergy	SERC	1

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Recommend that Level 3 non-compliance be made "not applicable" and the current Level-3 description be moved to Level-4 as 2.4.3.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Recommend that R5 be revised to read "A requirement that each Load-Serving Entity update its actual and forecast customer demand values at least once each year according to a schedule."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard is written from the viewpoint that all data from Disturbance Monitoring Equipment is useful in enhancing models. Some data is useful and some is not. This standard needs major wording changes as follows:</p> <p>Purpose: To use recorded disturbance data when appropriate in an attempt to validate and enhance system models.</p> <p>R1. The Planning Authority and Transmission Planner shall each use any appropriate recorded data from Disturbance Monitoring Equipment as required in PRC-002 R3.1 and PRC-002 R3.2 to validate and enhance steady-state and dynamic models.</p> <p>M1. The Planning Authority and Transmission Planner shall each provide evidence that if any useful recorded disturbance data was obtained, it was used to assess its steady state and dynamic models. This evidence shall be provided to the Regional Reliability Organization within 30 calendar days of a request.</p> <p>2.2. Level 2: Useful, available recorded data.....</p> <p>2.4. Level 4: Useful, available recorded data.....</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Unless specified in another Reliability Standard, a requirement should be added to require generator owners to notify the RA, BA, and/or TO as appropriate as soon as a non-functioning or blocked speed/load governor controls has been identified.</p> <p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data was provided and was complete for less than 100% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data was provided and was complete for less than 95% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data was provided and was complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data was provided and was complete for less than 85% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices	III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices	Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)	I.F.M3 – Disturbance monitoring data reporting requirements	Merged into existing PRC-002-0: See R3, R4, M3, and M4.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	As written this Standard states that disturbance data from installed devices is necessary to determine causes of disturbances, and is necessary to develop, verify and update system models. Recommend softening this position with alternate wording (i.e., ‘valuable’, ‘useful’, or ‘helpful’ may be substituted for ‘necessary’).

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of this standard is significantly greater than was in the original. The cost/benefits of including these additional items should be considered. Any retained item should be clarified as to what is actually required.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The requirement to annually update the databases is in both R1 and R2. Suggest R2 be changed go read: "The Regional Reliability Organization shall provide the current UVLS database to NERC within 30 calendar days of a request."</p> <p>Recommend first sentence of R1 be changed to read: "The Regional Reliability Organization shall establish requirements for, maintain, and annually update a UVLS program database."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In response to the question in the blue box as to whether UVLS and UFLS standards should mirror each other, the PSS does not believe that the UVLS standards need to exactly mirror the UFLS standards. The PSS recommends that no regional program standard development be pursued via the SARs process. UFLS and UVLS are very different in the system problems they are designed to arrest. UFLS is necessary across the Interconnections since frequency deviations propagate throughout. Voltage problems are more localized phenomena. Therefore, to attempt to mandate Regional UVLS requirements would not allow flexibility to implement prudent solutions for systems.</p> <p>Change 4.4 to read: "Load-Serving Entity that operates a UVLS program."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Add the word "program" to the end of 4.1, 4.2, 4.3, and 4.4.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Insert the following at the end of the first sentence in R2: "as stated in PRC-023 R1."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Suggest that R6 be deleted since all of the R6 requirements are included in R7. The PSS agrees with moving R9.1 and R9.2 to VAR-002.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>Suggest that R2.1 be deleted. The requirements of R2.1 are included in R2.2.</p> <p>M1 should refer to 5 business days instead of 3 calendar days (typical Standards practice).</p> <p>The "areas" referred to D.2.2 and D.2.4.2 needs to be clarified.</p>
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>R5 – replace “excursions in voltage, frequency, and real and reactive power output of a generator” with “excursions in voltage and frequency.”</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-023 through 027	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The effective date of the old II.B related standards should be moved to a later date. Because the requirements are contingent upon the development of RRO procedures, NERC should allow the RRO sufficient time to develop or revise their regional procedures to reflect the revised Reliability Standards. Field testing will be required to verify that the new RRO procedures are appropriate. The effective date of these standards should be determined after field testing.
PRC-019	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The requirements of this standard are not clear. They appear to require an enormous amount of work which may not be practical. Therefore, field testing is recommended.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Standard EOP-005-1: The two Measures included in this Standard are concerned only with Requirement 11. A third measure should be added to measure R1 - R10. The wording in the Data Retention part of the Compliance Section seems appropriate: "The Transmission Operator must have its plan to reestablish its electric system available for review by the Regional Reliability Organization at all times."

Standard MOD-026-1: The last sentence of R.4 "open circuit test ... terminal voltage." appears to be the same as Requirement R.5 and should be deleted.

Standard MOD-028-1: Please change "TPI-002" to "TPL-002" in the Purpose.

Standard PRC-002-1: Please change "any" to "either" in Levels of Non-Compliance 2.1 Level 1.

Standard PRC-002-1: Please delete the "or" at the end of Levels of Non-Compliance 2.4.1.

Standard PRC-004-1: We suggest Levels of Non-Compliance 2.1 and 2.3 be interchanged since "mitigation plans is incomplete" is in item 2.4 but not in 2.2.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Mark Kuras	
Organization:	MAAC	
Telephone:	610-666-8924	
Email:	kuras@pjm.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input checked="" type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact Email:

Additional Member Name	Additional Member Organization	Region*	Segment*

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Several of the requirements (R2, R3) should be sub-requirements under the requirement to have a restoration plan (R1). Seems like too many requirements are included in this standard, break up the standard into more than one standard. Measurements do not align to the requirements. Many more measurements are needed and then need to be reflected in the levels of non-compliance. Level 2 mentions and Attachment. What is this? Suggest that a separate blackstart standard be created instead of trying to insert the Blackstart requirements in an incomplete operating standard that needs a lot of work.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Remove items under Data Retention. First item is redundant with the standard. Second item is part of the auditing procedures of each region and don't need to be part of the standard. Remove text under Additional Compliance Information because it is up to the region how it will do compliance and should not be part of the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This well-intentioned standard should be deleted, because the extent of engineering judgment which must be used to determine which disturbances need to be simulated, what results should be retained for general use, and the methods to be used cannot be objectively audited for compliance. We recommend that this information be retained as a guide. The proposed standard belittles the often complex issues and significant time involved in replicating system disturbances and determining the most appropriate modeling enhancements to achieve reasonable matches. Simulation and analysis of every recorded disturbance should not be required, and not every analysis will provide useful data for model validation. Exercise of judgment to determine which disturbances are worthy of an event replication effort must be allowed. Regions and transmission owners need to set priorities because of the volume of events that may be recorded. Because these points are not recognized by the standard as written, it would mandate an excessive manpower commitment. There must be allowance to exercise judgment in this regard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R 1.2 should add ...use of... before ...manufacturer data.... Measurement 3 is redundant with Measurement 1 and should be deleted. The only adequate way to verify governor and excitation systems, including voltage regulator controls, limiters, compensators, and power system stabilizers, is testing. The term ...verify... is too vague; therefore I propose to change ...verify... or ...verification... to ...test or otherwise demonstrate... throughout the standard.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The term ...verify... is too vague; therefore I propose to change ...verify... or ...verification... to ...test or otherwise demonstrate... throughout the standard. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The term ...verify... is too vague; therefore I propose to change ...verify... or ...verification... to ...test or otherwise demonstrate... throughout the standard. Add ...leading and lagging... after ...reactive power capability... in R1. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard. Requirements and measures do not line up. Should be a one to one correspondance.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The main issue remains whether or not to require testing of generating unit excitation systems. The term ...verify... is too vague and seems to invite either confusion or continuation of the status quo. The listing under R3 is a hodge-podge of qualitative and numerical responses. The list neither requires that the excitation system model conform to IEEE Standard 421.5, nor that simulation code to implement non-conforming models be provided and documented. If no IEEE standard or PSSE or PSLF/PSDS standard library model adequately represents excitation system response, the generator owner should be required to have a user-defined model written and validated and provide documentation to the user community. In many cases generator owners may not have expertise to conduct any independent review of vendor data, particularly to determine whether any device settings have changed sufficiently to affect vendor estimates of model parameters but this does not relieve them of the responsibility to provide an adequate simulation model. A periodic review or retesting interval should be specified for parameters affected by field adjustable settings. Change Data Retention text to require that the Generator Owner shall retain commissioning and test reports and data as long as either (1) the equipment is in service or (2) events in which its response was significant remain under investigation. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Recommended new R3 - The Generator Owner shall provide the TP with information on any under frequency protection set at frequencies at or above the lowest stage of regional UFLS trip settings. Recommended new R4 - If the governor and prime mover model does not conform to an IEEE standard or PSSE or PSLF/PSDS standard library model, generator owner shall be required to have a user-defined model written and validated. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard is redundant with MOD-013-0 and should be deleted. Power electronic control devices should not be treated differently from other devices. If this standard is not deleted, it should be revised to require demonstration that the model adequately reproduce the dynamic response of the device and that user documentation be provided. Delete text under Additional Compliance Information because it is up to the region as to how compliance will be measured. This text adds nothing to the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Remove the instances of the word ...comprehensive... in R1 because it does not add anything. Add the word ...help... between the words ...data is available to... and ...determine system performance in R1. The information gathered is not perfect and with other information it can hopefully be used to determine system performance and causes of disturbances. In R3 the is a requirement to provide data. To whom?</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The second part of the Level 4 non-compliance seems a bit harsh. Recommend moving it down to Level Two and making Level 4 two or more requirements missing.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)	III.C.M11 – Analysis of misoperations of generator protection equipment	Merged into existing PRC-004: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Under data retention, the misoperation information and mitigation plans should be kept for at least 2 years. Switch Level 3 text with Level 1 text. Mitigations plans are more important than misoperation reports.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R1.4 and R1.5 should be removed. Compliance should look at the end product only not how it is accomplished. Concern about slight slippage of the schedule and non-compliance. In R1.6, is this last test of the program or of the relays? Text seems to imply the program.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Recommended a numbered sublist for the Levels of non-compliance instead of the present paragraph format.
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Any exemption criteria must be clearly stated and not be done on a case by case basis.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 text should be moved to level 3 or be given a clearer, more crisp way to determine incompleteness.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Change ...prevent... to ...reduce the possibility... Prevent is too strong. If another misoperation occurs, for whatever reason, you are non-compliant with R1.5.
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The concept of redundancy is dealt with somewhat in TPL-002 through TPL-004. It should be made clearer in those standards and then this standard can be deleted. Need to consider the performance consequences when a non-redundant primary protection system fails. Redundancy is not required for TPL-001 so delete the reference. Section 2 Levels of non-compliance are not written as requirements for redundancy but requirements for documentation. I don't think that was intended. Move text for Level 3 in Section 3 to Level 4.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	All requirements are not dealt with in measures and levels of non-compliance.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Level of non-compliance 2.4.2 seems to imply that the TO can order the GO to make changes to their GSU tap. I thought it had to be an agreed upon change (See R4). Also this is not mentioned in the measures.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Every requirement and measurement seems to imply that the TP and PA must redundantly do things. The ...and... should be an ...or... Level 3 non-compliance should be another sub-section of Level 4.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	For existing units, this standard, in fact, deals with generator protection or how the generator is protected. In other words, when will a generator trip during excursions of frequency or voltage. For new units, the establishment of regional requirements will help generation developers purchase equipment to conform. Frequency issues: Exemption criteria - There must be coordination with UFLS in all instances where generation could trip prior to last stage of UFLS. What is the difference between an exemption in R2 and a variance in R3? New R2.4 For each unit exempted, frequency trip points and times must be specified so that underfrequency load shedding programs can be augmented.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
I.D.M2 – Coordinate and optimize the use of generator reactive capability	Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
I.I.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies	Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses	It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals	dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics		<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Add the words ...a disturbance... after...detecting... Also add the words ...before and... after ...data...
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	We are recommending deletion of MOD-028 as we see no need to deal with these devices specially. That is the only place this term is used; therefore we see no need for this definition.

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Recommend not using the word ...evidence... It implies something beyond the required documentation. It has legal connotations. Suggest ...business documents... instead. We used this wording during drafting of the cyber standards.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Mohan Kondragunta	
Organization:	Southern California Edison	
Telephone:	(626) 302-4725	
Email:	kondram@sce.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>To improve the standard translation, SCE recommends the following changes:</p> <p>For the definitions, rename the term “Cranking Path” to “System Restoration Critical Path”</p> <p>For R8, the requirement for a T.O. to verify blackstart sufficiency to meet RRO requirements is unreasonable. The T.O. should verify sufficient blackstart for their restoration plans or their ISO, not the RCC.</p> <p>As worded, Requirement R9 implies that the Transmission Operator owns the blackstart units in its system restoration plan which may not be the case. Therefore, change Requirement R9 to read: “... demonstrate, through simulation or testing, that the blackstart generating unit(s) in its restoration plan can perform...”</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SCE agrees with the data reporting requirements, but has a concern with the LSE as the responsible entity. Within the WECC region, control areas are currently the reporting entity. Prior to legislation, perhaps a backstop should be created wherein the balancing authority (BA) is responsible for providing data for LSEs within their area if the LSE is not providing the data.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE suggests changing the word procedures in R1 to methods or guidelines. The term procedure can be interpreted as a prescriptive, step by step, document.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE agrees with the removal of the annual testing requirement and that it should be established by the RRO.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE agrees with the removal of the five-year testing requirement and that it should be established by the RRO.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE agrees with the removal of the five-year testing requirement and that it should be established by the RRO.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SCE agrees with the removal of the five-year testing requirement and that it should be established by the RRO.</p> <p>R2. Should include T.O. M2 references the T.O. in the measurement section but T.O. is omitted in the requirement.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE suggests modifying this so that the time synchronization requirement applies to EHV systems (220 kV and above) only.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE suggests that the Standard specify that the RRO identify minimum generator and plant size to apply this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE suggests that the Standard specify that the RRO identify minimum generator and plant size to apply this standard.</p> <p>In addition, it is recommended that Section A.3 be revised to read: “... transmission and generation protection system misoperations affecting the Bulk Electric System are analyzed for ...”</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE suggests that the Standard specify that the RRO identify minimum generator and plant size to apply this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>SCE agrees with the time synchronization status reporting.</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SCE suggests rewording R1.1.6 to read Out of Step Characteristics. WECC RS would like clarification on R1.2.1 and R1.2. What does coordination mean and how is it documented?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It is not practical to determine all UVLS misoperations and failures because it is not practical to have monitors on all UVLS locations.
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	There appears to be an inconsistency between the redundancy requirement of this standard and TPL-003. For example, C8 in Table 1 specifically allows for a protection system failure for a single contingency. Does the redundancy requirement apply to TPL-002? WECC RS believes this standard is confusing as written. If failure of a primary protection scheme results in the same performance level as with the backup scheme, why would an entity put the redundant scheme in as part of the primary protection? If performance can be met with a backup scheme, is a redundant scheme necessary?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SCE agrees with moving 9.1 and 9.2 to VAR-002-1</p> <p>R10. In the WECC this requirement is handled through RMS and R10 would require new procedures are agreed to by Generators in the WECC. Change to read: "Each Transmission Operator, Balancing Authority or Reliability Authority with synchronous generation ..."</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	SCE supports this Standard. Existing WECC Standards address these requirements.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	SCE recommends that the term be renamed to "System Restoration Critical Path"
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Dan Griffiths
Organization:	Pa. Office of Consumer Advocate
Telephone:	717-780-4525
Email:	dgriffiths@paoca.org
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input checked="" type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Generator testing frequency may be as much as 5 years under the proposed standard per Requirement 9. I believe that this is far too long given the critical function of system restoration. The need for more frequent testing is underlined by the fact that some Black Start generators in PJM, for example, do fail to start under normal operations. Also, there have been anecdotal comments in PJM regarding a lack of maintenance for some Black Start units. Thus, frequent testing ought to be done to ensure that Black Start resources are actually likely to be available. Almost every other standard in Phase III-IV has a reset period of 1 year and I urge that the retest period for "black start" generation be set to 1 year. Further, under 1.3 of Compliance, the proposed addition sets the record retention period to 3 years. This appears to conflict with the 5 year frequency of generator testing. Recommend, at a minimum, that all time frames in EOP-005-1 be alligned.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>I believe that the language in the Purpose section is insufficiently precise. I suggest that the first sentence be modified to read: "To ensure that accurate, actual demand data is available and to support assessments and validation of past events and databases."</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	As a general rule applying to MOD-23 through 27, verification of equipment and performance data should be clearly required so that effective assessment and planning is always feasible. Past experience seems to show that data/model reporting may fall victim to cost cutting by generation owners unless reporting requirements are specific and strong.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Suggested rewording of 2.1 of Levels of Non-Compliance as follows: "Transmission Power Electronic Control Device models, data, and settings were provided to the Regional Reliability Organization more than 30 days following the request."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
I.D.M2 – Coordinate and optimize the use of generator reactive capability	Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
I.I.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies	Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	One question occurs: if a Black Start unit is needed to start a second unit which is in turn needed to start a third, much larger unit, what is the cranking path?
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The new R9 and R10 seem to be a rewording of the existing R7 and R8. One of these sets of requirements needs to be eliminated.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It appears the drafting team has chosen to rewrite this proposed standard and add new requirements. The Planning Authority should not be deleted from this standard.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirements appear to be addressed in MOD-013-0 and PRC-002-1. The types of qualifying disturbances needs to be defined.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It appears that these requirements are addressed in standards MOD-010 through MOD-013. R2 and M2 should include the Planning Authority
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It appears that these requirements are addressed in standards MOD-010 through MOD-013. R2 and M2 should include the Planning Authority

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It appears that these requirements are addressed in standards MOD-010 through MOD-013. R2 and M2 should include the Planning Authority</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It appears that these requirements are addressed in standards MOD-010 through MOD-013. R1 and R3 should include the Planning Authority</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 and R2 should include the Planning Authority</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Model and data is needed prior to the in-service date in order to perform the reliability study.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The new requirement R1.1 does not add to the standard, should be deleted.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It appears that this standard is redundant to PRC-002-0.</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It appears that this standard is redundant.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>It appears that this standard is redundant to PRC-011-0.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard should be included as a planning authority function.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This requires redundant system protection on every new or upgraded system protection scheme for bulk transmission. Could be scaled back to this type of redundancy only on critical facilities.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Added new requirements and revised several others. There is currently no standard that addresses voltage stability analysis and associated limits.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It appears this standard is redundant with TOP-002, TOP-003, IRO-005.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It appears this standard is redundant with other standards.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Transmission Owners are required to maintain the interconnection as described in TOP-004-0 R5.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Kathleen Goodman
Organization:	ISO New England
Telephone:	(413) 535-4111
Email:	kgoodman@iso-ne.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 has not been fully translated into R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, it is important that serious consideration should be given to blackstart testing more frequently than "at least every five years". Simulation of unit testing should not be allowed and there should only be a requirement to test the Units at least once every five years and any blackstart related facility on an annual basis.</p> <p>Drafting Team to clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p> <p>Suggestion to reformat the restoration plan requirements as separate bulleted subrequirements and then reformat the Blackstart unit testing section into subRequirements for clarity.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.5 the use of the actual and forecast data as directly provided by the LSE must be analyzed to ensure it is properly aggregated to reflect coincident peak demands for system modeling and reliability analyses. It is suggested that the word "incorporate" be used instead of "use" in that Requirement.</p> <p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Suggested change to R1; should specify the type of disturbances which are required to validate models.</p> <p>Also change;</p> <p>"..to develop, maintain, and enhance steady-state and dynamic models."</p> <p>to</p> <p>"..to enhance analysis of wide area system disturbances and validate system simulation models.</p> <p>In addition this may be more appropriate to be a Guide rather than a Standard as the inclusion of all system disturbances in the validation of system models seems onerous and unmeasurable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>R1.2, change;</p> <p>"Acceptable methods.."</p> <p>to</p> <p>"Guidelines for methodology.."</p> <p>In R1.4.2 we request the drafting team to define "gross and net reactive power capability".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>We suggest that development of this standard be deferred. The development of this standard needs more technical discussion.</p> <p>However, due to the importance of this requirement, until a a well-vetted standard can be developed and given the local nature of reactive capability, only local and Regional Criteria should apply.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Although in concept that collecting this information has value, the actual testing required to validate the parameters could be a detriment to reliability. The development of this standard need more technical development.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Drafting Team to verify that the testing requirements that appear in the "S" language in the original Standard, has been dropped, was this intentional?</p> <p>There is also an analysis currently underway regarding the response of unit governors on August 14 and also how they relate to existing system models, the results of which should be considered within the context of this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Power Transmission.</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Power Transmission.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.2 We suggest that documentation of specific maintenance Criteria be defined by the Regions.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We believe the intent of this Standard has gone beyond the scope of the original Planning Standard IIICM8 and recommends it be remanded back into the SAR process as a new standard, and removed from this set.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Power System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Power System.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The M1 response time should be 30 days, not 3 ?
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Typo in "Proposed Effective Date" November.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Capture pre-fault information.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>We STRONGLY suggest that the effective date to comply with the Standards be 6 months from the date of their adoption by the Board FOLLOWING FIELD TESTING. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have some laudable reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: "This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Howard Rulf	
Organization:	We Energies	
Telephone:	262-574-6046	
Email:	Howard.Rulf@we-energies.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input checked="" type="checkbox"/>	4 - Transmission-dependent Utilities
<input checked="" type="checkbox"/> MAIN	<input checked="" type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.1.4 Define "GSU" in this standard and/or add it to the "Glossary of Terms Used in Reliability Standards". R1.1.6 Out of step relaying has a dynamic characteristic and is not applicable to the steady state generator reactive capability curve. R1.2.1 Minimum excitation limit is a component of the Automatic voltage regulator and as such is not coordinated with it. M1 There is too much information required in this standard to be available within 30 days of a request. 90 days would be more appropriate.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Alan Adamson	
Organization:	New York State Reliability Council (NYSRC)	
Telephone:	(518) 355-1937	
Email:	aadamson@nycap.rr.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 has not been fully translated into R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, it is important that serious consideration should be given to blackstart testing more frequently than "at least every five years." The Drafting Team should clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p> <p>We suggest to reformat the restoration plan requirements as separate bulleted subrequirements and then reformat the Blackstart unit testing section into subRequirements for clarity.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.5 - The use of the actual and forecast data as directly provided by the LSE must be analyzed to ensure it is properly aggregated to reflect coincident peak demands for system modeling and reliability analyses. It is suggested that the word "incorporate" be used instead of "use" in that Requirement.</p> <p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Suggested change to R1: Specify the type of disturbances which are required to validate models.</p> <p>Also change:</p> <p>"..to develop, maintain, and enhance steady-state and dynamic models."</p> <p>to</p> <p>"..to enhance analysis of wide area system disturbances and validate system simulation models.</p> <p>In addition this may be more appropriate to be a Guide rather than a Standard as the inclusion of all system disturbances in the validation of system models seems onerous and unmeasurable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>R1.2, change:</p> <p>"Acceptable methods.."</p> <p>to</p> <p>"Guidelines for methodology.."</p> <p>In R1.4.2 we request the drafting team to define "gross and net reactive power capability".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-027-1 Verification and Status of Generator Frequency Response	II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system	Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The drafting team should verify that the testing requirements that appear in the "S" language in the original Standard, has been dropped; was this intentional?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirement in R1 should be limited to bulk power transmission.</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirement in R1 should be limited to bulk power transmission.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>In reference to the applicability and requirements for TOs, there should be reference to voltage classification, or whether this applies to Bulk Power System elements only. In reference to the applicability and requirements for GOs there should be reference to size of generation, or whether this applies to Bulk Power System elements only.</p> <p>Under Requirements R2, the documentation required should be described or clarified. This clarification should state whether the documentation is a written description in paragraph form, or the copy of the organization's entire relay maintenance file.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Section C, Measures, M2 references PRC-002 R2.1 through R2.6. It appears that it should be referring to PRC-018-1 instead.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Power System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>In Requirements, it states that each TO shall provide protection system redundancy with each new or upgraded Bulk Electric System protection system installation. The standard should address instances where physical limitations of existing installations prevent meeting all the applicable criteria items.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Power System.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R2.2 should require that assessments be performed at least every two years, instead of every five years.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Typo in "Proposed Effective Date" November.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>The NYSRC suggests that the effective date to comply with the Standards be six months from the date of their adoption by the Board. We feel that all the standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have some laudable reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

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Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: " This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **Data Coordination Working Group**

Lead Contact: Ken Keels

Contact Organization: SERC

Contact Segment: 2

Contact Telephone: 704-948-0761

Contact Email: kkeels@serc1.org

Additional Member Name	Additional Member Organization	Region*	Segment*
Shaun Streeter	NERC	N/A	
Paul Kure	ECAR	ECAR	2
Linda Shirey	ERCOT	ERCOT	2
Scott Beecher	FRCC	FRCC	2
Mark Kuras	MAAC	MAAC	2
Ray Mason	MAIN	MAIN	2
Matthew Couillard	MRO	MRO	2
Peter Koegel	MRO	MRO	2
Godfrey Chibulunje	NPCC	NPCC	2
Guy Zito	NPCC	NPCC	2
Kathy Condon	ISO New England	NPCC	2
James Pratico	New York ISO	NPCC	2
Teresa Glaze	SERC	SERC	2
Brett Rollow	SPP	SPP	2
Richard Simons	WECC	WECC	2

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	DCWG agrees with merging II.D.M2 into MOD-016 for clarity and efficiency among the data requirements standards. Additional clarity and efficiency could be gained by merging some parts of the other existing, related standards (MOD-016 through 021). For example, MOD-019, MOD-020 and MOD-021 could be merged into MOD-016 through MOD-018 - interruptible and load control do not need to be separated from demand and energy. Arguably, MOD-020 could remain separate as it requires the reporting of interruptible and load control to operating entities while the balance of the MOD-016 through MOD-021 are planning entity related. DCWG also believes that changing the applicability of MOD-016 to RROs instead of RROs and PAs is appropriate, clarifies responsibilities and reduces the possibility of "double jeopardy" among these standards (an entity being found non-compliant on multiple standards because of a non-compliance on a single element of a standard).

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The Energy Information Administration (EIA) collects these data in their annual EIA-860 generator survey. EIA specifies reporting procedures and definitions. DCWG's concern is that the EIA procedures and definitions may not be consistent compared with individual NERC Region procedures and definitions. Please see DCWG comments relating to the deletion of II.D.M3 for further detail on government/NERC coordination.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies	Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	DCWG agrees with deleting II.D.M3 in its current structure and the drafting team's rationale for the deletion but is concerned about possible duplication of effort if NERC and government agencies do not coordinate data collection. NERC should avoid tying reliability standards performance to third party entity requirements, and removing this standard fits that viewpoint. NERC does not always agree with others regarding what data are necessary for reliability. A good example is the difficulty faced by NERC and the Regions in trying to incorporate Energy Information Agency (EIA) form changes into NERC's 2005 data collection process. The downside of not having a consistency requirement includes possible duplicate reporting, multiple definitions and/or standards for similar data points, and the burden of explaining to outside entities why and how the data are different. We received two suggestions for possible retention of consistency wording in the standards. One suggestion was to build a consistency requirement into the MOD-016 -MOD-021 standards. The other suggestion was to replace this standard with a requirement that the RRO's data must be presented to NERC on an annual timetable established by NERC, in the format established by NERC, and following the data definitions established by NERC and have NERC work with the various government agencies to retain coordination and consistency.
II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses	It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The DCWG members listed above are representatives of NERC regions or subregions. Other DCWG group members, such as EIA liaisons and industry representatives, either were not polled or did not submit comments.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R5. The term "periodically" should be changed to some measurable frequency.</p> <p>R6 and R7 should have a required frequency added to the requirement.</p> <p>R1. Will need to remove reference to old version 0 document and create reference to new version 1 attachment 1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>The heading for the "Measures" Section is missing.</p> <p>It is necessary for the requirements in MOD-016-1 to be complimentary to the requirements in MOD-017-0 regarding applicability for Load Serving Entities. MOD-016-1 and MOD-017-0 need to coordinate to address this issue.</p>
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Incorrect reference to PRC-002. References R3.1 and R3.2. Intent is to refer to PRC-002-1 R1?</p> <p>This standard provides some good guidelines for utilizing disturbance data to maintain system models. However, this standard should not be mandated to the transmission planner or planning authority level. This should be done at the Regional level. In addition, there should be room for judgement at the regional level when determining which disturbances are worthy of an event replication effort.</p> <p>Recommend that this standard be deleted.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	M2. change "within 30 calendar days." to "within 30 calendar days of request". D2. Levels of non-compliance. Where "some" is used for non-compliance, is it possible to define further?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>D2. Levels of non-compliance. Where "some" is used for non-compliance, is it possible to define further?</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Assume the standard allows for the RRO to approve of exemption for smaller units?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Assume the standard allows for the RRO to approve of exemption for smaller units?</p> <p>R1. After "transients", add "and be sustained while frequency remains off nominal".</p> <p>R2. Change "within 30 days" to "within 30 calendar days".</p> <p>Levels of non-compliance. Where "some" is used for non-compliance, is it possible to define further?</p> <p>Correct proposed effective date under A5 from October 1 to November 1.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Correct proposed effective date under A5 from October 1 to November 1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1. Following "The comprehensive requirements" add "shall be directed to the Transmission Owner and/or Generator Owner (and clarify responsible entity) and".</p> <p>R1.6 Change "Installation requirements:" to "Regional criteria on installation requirements for:"</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Recommend that NERC develop a guide to assist Generator Owners for developing the requested curves required in R1.</p> <p>R1.1. Change "plotted, or in a form" to "plotted, or be provided in a form".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>2.1 Change "incomplete" to a measurable quantity, such as "did not include one or more of the eight required items in R1.1 - R1.8."</p> <p>A5. Change proposed effective date from October 1 to November 1.</p> <p>The standards for PRC-020-1 and PRC-021-1 need to require coordination with other UVLS programs within the region and with other regions. These two standards require data submittal, but do not require any implementation or use of the data. The implementation/use of this data should be similar to the UFLS data. The UVLS standards should have similar corresponding requirements to the current UFLS standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>See comments on PRC-020-1</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Move VAR-001-1 R9.1 and R9.2 to VAR-002 R1.1 and R1.2 so that all Generator Owner requirements are together.</p> <p>D2.2.2 and D2.2.3 can "incomplete" be defined as a measurable quantity?</p> <p>In R3, after "Each Transmission Operator shall", add the words "maintain a list of synchronous generators that are required to follow a voltage schedule, and". It should not be mandated that every unit have a voltage schedule developed for it. Also, this allows for the deletion of R3.1, which then becomes redundant. Note that without any change, R3 seems to indicate all generators must have a voltage schedule, while R3.1 seems to indicate only some need a schedule.</p> <p>Add a M4 that reads "In the event a voltage collapse occurs, the Purchasing-Selling Entity or Transmission Operator shall, within 30 calendar days of a request, provide documents to the Regional Reliability Organization and NERC demonstrating the actions it took under R2 (TO), R4 (PSE), R6 (TO), R8 (TO), and R12 (TO) to prevent the voltage collapse." Corresponding language should also be added under Level 4 of the Non Compliance language.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>Move VAR-001 R9.1 and R9.2 to VAR-002 R1.1 so that all Generator Owner requirements are together.</p> <p>R1.3 Should the standard allow for an exemption for smaller units?</p> <p>R3. Reference necessary in this standard to TOP-002-0 R14.</p>
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Merge requirements in R1 of VAR-003-1 into TPL-001-0, TPL-002-0, and TPL-003-0 with requirement in Measures of the TPL standards for review and assessment once every five years. R2 has the same intent as R1.3.9 in the TPL standards. R3 is identical to R3 of the TPL standards. VAR-003 can now be eliminated.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>Change proposed effective date and timeline from October 1 to November 1.</p> <p>R1. Change "interconnected" to "connected".</p> <p>R2. Change "exemptions" to "exemptions or variances" and delete R3 as it becomes redundant.</p> <p>This standard seems out of place in the VAR category.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The Regional Reliability Organization needs time to develop accepted standards and methods for determining consistent requirements for the associated standards for Generator Owners in MOD-025-1, MOD-026-1, and MOD-027-1.
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Delay necessary for method standardization in MOD-023-1. Additionally, field testing and/or some external evaluation and additional costs may be necessary.
PRC-019-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		This standard is complex and potential significant delays may be incurred obtaining the data. Requesting NERC guidance in methodology for obtaining the data.
VAR-002-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Previous regional requirements allowed for exemptions for smaller generators. Will require some external evaluation and additional costs.
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Delay necessary for method standardization in MOD-023-1. Additionally, field testing and/or some external evaluation and additional costs may be necessary.
MOD-027-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Delay necessary for method standardization in MOD-023-1. Additionally, field testing and/or some external evaluation and additional costs may be necessary.
PRC-020-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The Regional Reliability Organization needs time to develop the UVLS database.
PRC-018-1	<input checked="" type="checkbox"/> Yes.		Transmission Owners and Generator Owners need

	<input type="checkbox"/> No.		time to become compliant with new requirements being developed in PRC-002-1. Additional expense and testing may be required to comply with RRO requirements in PRC-002-1.
VAR-004-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The Regional Reliability Organization needs time to develop the requirements for this standard.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
PRC-021-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The entities need time to develop the UVLS program, if required.
PRC-022-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		PRC-022-1 is dependent on development of PRC-021-1.
PRC-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Transmission Owners may need additional time to install necessary equipment to comply with the standard.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

- 1. All of the different versions that were made available by NERC for the Version 1 standards (comparison documents, clean documents, marked-up documents) had inconsistencies between the versions. The comments made here are based on the clean documents.**

- 2. Unless otherwise intended that all items were to apply, for all standards where there are multiple items of non-compliance listed within one level, they should be preceded with the phrase, "There shall be a level XX non-compliance if any of the following conditions exist:"**

- 3. There are many locations within the standards where inconsistencies exist for the standards referring to themselves. In some instances, the standards will refer to themselves as, for example, "MOD-016-1 R1". At other times, it will be "MOD-016-1_R1". At other times, it is simply "MOD-16-1", or may refer to the old Version 0 standard as "MOD-016". This language needs to be standardized throughout all of the standards, especially eliminating any references to Version 0 standards that are not anticipated to exist. Recommend that documents refer to themselves with full version 1 names (i.e, MOD-016-1).**

- 4. There is confusion regarding the effective date of the standard and how quickly the entity that the standard is applicable to is required to be compliant. For example, for most of these standards, the entity that the standard is applicable to would appear to have 30 calendar days to respond to a request for compliance. The monitoring entity could, theoretically, request data on November 2 for a standard that takes effect on November 1. Does this mean that these entities have 30 days to comply with the standards? Recommend that an additional date be added to each of these standards entitled "Required Implementation Date". This date would be set 1 year (or other acceptable time-frame) beyond the effective date of the standard, allowing time for each entity to comply with the standard, before being monitored for the standard.**

- 5. It is observed throughout the different standards that many of the Requirements do not have a corresponding Measure. It would provide additional clarification if each Requirement had a corresponding Measure (i.e., EOP-005).**

- 6. Recommend that all standards that have related standards include a reference to the related standards (i.e, MOD-016-1 would include a reference to MOD-017-0 as a related standard).**

- 7. Enhancements to these standards need to be considered for non-synchronous (e.g. wind) generation.**

- 8. Some of the NERC standards have Requirements that are not fully addressed by associated Measures. Recommend that for all NERC standards each Measure indicate which Requirement(s) it is addressing. All Requirements should be fully addressed by the Measures.**

- 9. Making the "Regional Reliability Organization" the applicable entity in MOD-016-1, MOD-023-1, PRC-002-1, PRC-003-1, PRC-020-1, PRC-023-1, and VAR-004-1 is inconsistent with the NERC Functional Model. These standards should be changed to make them applicable to the appropriate entity within the Functional Model.**

- 10. The words "affect"(ed) and "effect"(ed) are, at times, inappropriately interchanged throughout the standards.**

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input checked="" type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Recommend that Level 3 on non-compliance be made "not applicable" and the current Level 3 description be moved to Level 4 as 2.4.3.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Recommend the SDT make mention of a procedure with the TP and PA that will define the criteria for selecting which disturbances will be analyzed.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The regional procedures should be developed with input from Generator Owners and Operators to ensure the methodologies are safe, practical, and reasonable.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 should not refer to summer and winter capabilities. The RRO should define the seasons needed for MW verification.</p> <p>Therefore, R2.1 should be changed to: R2.1. Gross and net real power capabilities of each unit based on the power factor level expected for each unit for the seasons required by the RRO.</p> <p>Under R2.3, we see no reason why date and conditions should be required.</p> <p>SoCo Generation recommends field testing MOD-024.</p> <p>The Levels of non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. The details of the requirements are left up to the RRO, and the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 80% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 75% of a generator owner's units as required by the RRO procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We recommend deleting R2.3 and remove date and conditions from R3. Also, SDT should incorporate the levels of non-compliance for this standard as recommended for MOD-024.</p> <p>This new standard will require extensive operation effort, engineering analysis, and field testing to accomplish. Furthermore, it is impractical for a Utility with many large generating units to accomplish full compliance in a short time period. While we agree fundamentally there is a reliability need for this standard, the reliability importance and impact of all generators on the system is not the same. A phased approach that prioritizes the implementation for existing generators would provide reliability benefits and help reduce the strain on industry resources. We recommend this approach be reflected under the Compliance section, allowing an initial seven calendar year phase-in period, then one calendar year.</p> <p>The accomplishment of this should be coordinated with Standards MOD-026-1 and PRC-019.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SDT should incorporate the levels of non-compliance for this standard as recommended for MOD-024.</p> <p>R1 & R3 - The 30 day reporting requirement is too demanding, especially if a large number of units are involved.</p> <p>R5 should allow for alternatives to the open-circuit step response test.</p> <p>This new standard will require extensive operation effort, engineering analysis, and field testing to accomplish. Furthermore, it is impractical for a Utility with many large generating units to accomplish full compliance in a short time period. While we agree fundamentally there is a reliability need for this standard, the reliability importance and impact of all generators on the system is not the same. A phased approach that prioritizes the implementation for existing generators would provide reliability benefits and help reduce the strain on industry resources. We recommend this approach be reflected under the Compliance section, allowing an initial seven calendar year phase-in period, then one calendar year.</p> <p>The accomplishment of this should be coordinated with Standards MOD-025 and PRC-019.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SoCo Generation recommends the SDT better define the requirements of this standard. R2.2 should be deleted and may require a separate SAR to better define the requirements.</p> <p>The industry has not established a safe and effective means for determining the response of a generating plant to changes in system frequency. Our assessment indicates the response of generator speed and the MW output depend on the overall control system applied at the plant not just the governor.</p> <p>If these requirements are adopted then SoCo Generation's comments for MOD-025 regarding field testing, implementation, levels of non compliance and reportability should apply.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 - Need to clarify what is meant by "categories" of devices.</p> <p>Also, the term "all" as used here should be removed due to that it would imply no limitations. The scope of generator protection systems defined in the regional procedures should be reasonable (limited to only what is necessary.)</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 & M1- Recommend that SDT clarify and state what is meant with the statement "implement a mitigation plan to avoid future misoperaitons" . Wouldn't it read better to say "implement a mitigation plan in an effort to prevent future misoperations".</p> <p>R2 & M2- Recommend that SDT clarify and state what is meant with the term "mitigation plan". Does it mean the same as in R1?</p> <p>D.1.3 - Recommend replace "and accompanying mitigation plans" with "corrective actions".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>M2 - The reference to PRC-003 is incorrect. We believe this should be PRC-005.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of this standard is much greater than in the original III.C.M8 standard and is excessive. The scope should be contained to show coordination of the "voltage regulator control and limit functions with the generator's capabilities and protective relays". On this basis, we recommend deletion of R 1.1.4, R 1.1.6, R 1.1.7, R 1.4. Clarify R1.2 and R1.3 as noted below: R1.2 should be clarified to state "When so equipped, minimum excitation limiter coordinates with the generator's underreactive capability and the loss of excitation or loss of field relay." R1.3 should be clarified to state, "When so equipped, the V/Hz limiter coordinates with the generator and/or GSU V/Hz capabilities and the V/Hz protective relay(s)." Not all generators are equipped with all protective system devices and excitation system limiters and devices listed here. This standard should not dictate what protection features are required; it is better suited for the Gen Op and Trans. Provider. Delete NERC from the 1st sentence in R1 and M1. Due to the significant amount of cost and resource requirements to accomplish testing, etc., it is recommended that Compliance D1.1.2 be changed to say "Initial seven year calendar year phase-in period, then one calendar year".</p> <p>This standard should be coordinated with Standard MOD-026.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The title of the Standard should be changed to end with "....Data repository" vs. "Data base".</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This Standard would be too expensive to implement and would be unduly burdensome. Recommend removing this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We believe the generator operator requirements R9, R10, and R11 should be deleted from VAR-001-1 and addressed separately from the Transmission by placing it in VAR-002-1 and reworded more appropriately.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.3 - Add the qualifier "upon request". R3 - The requirement for the Generator Operator to monitor grid voltage every 30 minutes is a new and unnecessary burden on the plant operator. Also, the log is only needed when the Transmission Operator does not approve present voltage or reactive output. R3 is needed only to address the documentation for cases when the plant operator cannot meet R2. Recommend revising R3 to say, "Each Generator Operator shall maintain a written log of the date, time, duration, and reason for each period when a voltage and reactive schedule for a generator was not maintained as specified by the Transmission Operator. This log shall be maintained for 12 rolling months." This will minimize paperwork, because it will result in a log entry only when either the plant operator cannot meet the transmission operator's requirement or does not get the transmission operator's concurrence."</p> <p>R5 - Strike the words "and auxiliary". There is no transmission reliability need for generators to provide the auxiliary transformer information to the specified entities. This should be removed here and included in the Nuclear Offsite Power Reliability Standard.</p> <p>Five (5) business days is not reasonable and should be increased to 14 calendar days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	ID.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comments

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>This standard should be addressed separately from Phase III/IV and included in a separate SAR.</p> <p>SoCo Generation does not support this standard being in Phase III/IV because there is no engineering basis for establishing the temporary voltage and frequency excursions for which turbine-generator and auxiliary equipment can safely continue to perform its intended functions.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Need to permit relays with oscillography capability.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-024-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures. Various methods will be employed among different utilities and generators to do this verification. Some refinement in the processes and procedures are expected as experience is gained and should enhance the safety and reliability of the overall verification process. This supports the allowance of a reasonable period of time to achieve compliance.
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Same as for MOD-024-1.
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Same as for MOD-024-1.
MOD-027-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		SoCo Generation recommends this standard be better defined to develop practical and safe methods of collecting the required verification data. If this standard is adopted then we recommend field testing as stated in our comment on MOD-024-1 above.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

General Comment on PRC-019: Historically, very few generator device coordination problems have been identified. Since this is a new standard and historical trends don't indicate widespread problems in this area, it is recommended that NERC and the regions address the generator device coordination on a priority basis and allow ample time for the industry to come into compliance. Allowing up to seven years for existing systems to be completed should allow a reasonable amount of time for the coordination to be performed and implemented.

General Comments on the Phase III-IV Standards: Prior to their approval, each element of these "new" standards should be examined carefully to ensure the burdens imposed on generators (cost, resources, additional documentation, etc.) are justified in terms of positive and measureable impacts on grid reliability. This is extremely important to the facility owners and operators, because noncompliance with these standards will ultimately result in penalties and sanctions. Furthermore, it is imperative that compliance be achieved without undue risks to the system and generator. In the process of expediting the Phase III/IV standards development, and the limited participation to date by generation experts within the industry, we are not confident that a thorough job is being done in these areas. In addition, because these standards are setting "new" requirements and will involve significant amount of additional work and documentation, it would be appropriate to allow ample time for the industry to come into compliance. We believe it is inappropriate to issue non-compliances against industry participants for a "new" standard at its implementation date.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Rebecca Berdahl
Organization:	Bonneville Power Administration - Power Business Line
Telephone:	503-230-4502
Email:	rmberdahl@bpa.gov
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input checked="" type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input checked="" type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input checked="" type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R4 We recommend adding blackstart generator owner to the list of entities with whom the transmission operator will coordinated the blackstart restoration plan. R9 We recommend changing "startup functions" to "system restoration functions" to avoid confusion with the requirement to periodically demonstrate the ability of blackstart generators to start without grid support.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1.4 requires verification parameters including generator gross and net real power and generator gross and net reactive power. Clarification can be added by including a definition requirement of gross real power, net real power, gross reactive power and net reactive power as applied by the generator owner. Or, NERC could develop minimum definitions that would apply to all generating facilities.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 as stated above (MOD-023) we recommend clarification be added describing defining gross real power, net real power, gross reactive power and net reactive power.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>R3.3 requires model and data verification of over and under excitation limiters. IEEE is still working to develop a model for limiters after which the dynamic simulation software vendors will incorporate the models into their programs. We recommend striking verification of limiter models until models approved by the RRO are available.</p> <p>We also recommend as a practical matter that a phase-in period be provided by the RRO. This will allow entities with a large number of machines to distribute the validation and re-validation process over a period of time (3-5 years).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Further definition of time synchronization needs to be completed to provide clarity and acceptable translation.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>We suggest provision allowing the RRO to establish minimum generator and /or plant size for application of this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>We suggest provision allowing the RRO to establish minimum generator and/or plant size for application of this standard.</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Include the RRO as the body that will coordinate the minimum generator and plant size for stand application.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We believe the draft represents a substantially expanded scope of the standard.</p> <p>The draft employs the use of the generator capability curve to plot several characteristics that were not specified in the original version of the standard. This specified format will require substantial resource and time to compile.</p> <p>In addition some of the characteristics are not typically plotted on the capability curve or plotted at all.</p> <p>The standard requires numerous data to be plotted that will clutter and impact the usability the capability curves.</p> <p>Another concern; we believe the draft overlaps considerably with standard FAC-009 Establish and Communicate Facility Ratings. For example this standard asks for the MW limit of the prime mover, the MVA rating of the step-up transformer, and any other limit that could restrict the MW or MVA output. As stated this includes ambient temperature impact, river flow requirements, and environmental restrictions.</p> <p>We recommend the drafting team reexamine the amount of information to be provided to the Transmission Operator and consider reducing it to a few basic items.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We support comments made by WECC RS "It is not practical to determine all UVLS misoperations and failures because it is not practical to have monitors on all UVLS locations."</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>We support comments made by WECC RS "There appears to be an inconsistency between the redundancy requirement of this standard and TPL-003. For example, C8 in Table 1 specifically allows for a protection system failure for single contingency. Does the redundancy requirement apply to TPL-002? WECC RS believes this standard is confusing as written. If failure of a primary protection scheme results in the same performance level as with the backup scheme, why would an entity put the redundant scheme in as part of the primary protection? If performance can be met with a backup scheme, is a redundant scheme necessary?"</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>Within WECC the requirements of R10 have been communicated to the generation owners via the RMS.</p> <p>Provide additional clarity to R4 to avoid possible misinterpretations of this requirement. Is the Transmission Provider to provide the reactive quantity to the PSE for each transaction? What PSE documentation is NERC requiring to document this requirement has been met? The applicability statement does not include the Transmission Provider.</p>
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>We agree the generation owner will maintain the voltage schedule provided by the transmission operator within the capability of the generator; however in practicality the transmission operator monitors the voltage levels with the appropriate instrumentation (that may not even be available to the generator owner). As such they are the logical entity to log instances in which a voltage schedule was not met.</p> <p>The standard does not define what voltage level constitutes a deviation from the schedule, +/-1% ?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	ID.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Kenneth Dresner
Organization:	FirstEnergy Solutions
Telephone:	330-384-7916
Email:	kjdresner@FirstEnergyCorp.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	This proposed standard does not combine the requirements of the voltage regulator data and the excitation system modeling as proposed in standard MOD-26-1
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Section R1 - 1. The word 'verify' needs additional clarification, such as, ". . . Owner shall verify by test, operational history or other means the gross and net reactive power . . ." 2. The definition of gross and net should be given to clearly understand what is being measured versus what is used and being modeled. Does net include auxillary loads and transformer loses?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Section R2 - 1. The word 'verify' needs additional clarification, such as, ". . . Owner shall verify by test, configuration control reviews or other means the data used in dynamic models . . ."</p> <p>These two standards should be kept separate to help facilitate tracking compliance at the physical level and help focus on the areas of non-compliance MOD-023-1 calls out a separate requirement for each of the proposed merged standards</p> <p>The ability to identify the need for a change in excitation system a year in advance is not always practical and therefore the need to submit information a year in advance should be dropped or modified accordingly</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>A standardize timeframe of 30 business days or greater to provide the data should be retained in the proposed standard</p> <p>The request for the nonfunctioning or blocked speed/load governor data needs a duration timeframe of possibly rolling 12 month period since the other requirements of this proposed standard have a frequency of every five years</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>None</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>None</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirements under R1.1 are too specific and also to general things like batteries and communications are too general for implementation</p> <p>What is the definition of an instrument transformer? This could be considered too general</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>None</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>The standard is well written but the 5 day time frame to respond to R5 is to short</p> <p>The number of transformers can amount to the hundreds and a response time of 30 business days seems more appropriate.</p> <p>Also the definition of Auxillary transformer needs to be clear.</p> <p>I believe that by merging of the standards will make the tracking of compliance more difficult. The issue of being noncompliant on one Requirement will roll up to the noncompliance to the overall standard</p> <p>This will make physically tracking the compliance levels more difficult</p>
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Same comments as for VAR-001-1</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	None

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Carol L. Krysevig
Organization:	Allegheny Energy Supply Company
Telephone:	(724) 830-5432
Email:	ckrysev@alleghenyenergy.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>MOD-023-0 is a standard from which other standards flow. As such it should be broader in nature allowing for the individual standards to be more specific. I am concerned that '..testing' as used in requirement R1.2 will be interpreted as the answer in all cases. To accept MOD-023-1, I require '..testing' to be changed to '..testing when practical'.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>MOD-026-1 as written places the burden on the Generator Owner to verify data used in dynamic models for excitation systems while not having any expertise in system studies, model derivation and use. This standard, and specifically requirements R2, R3 and R5 would result in a Generator being required to furnish, within thirty days, excitation data on 20, 30.. or more units with accompanying field testing that may be required, all without missing any elements. I question how many deregulated utilities can meet that standard. While I do agree that a program is needed to ease into a joint database of excitation parameters between System Planners and Generator Owners this standard goes beyond full cooperation.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>MOD-027-1 goes far beyond verifying that a governor is in service or blocked. While modern electronic governors do have accurate dialed in settings for droop, deadband and other control limiters older mechanical governors do not. Their expected response may be at best a guess. Not knowing of a viable test for frequency response I do not agree with this standard as written. On a per unit basis the most accurate indicator of frequency response was evident on August 14, 2003. It is believed that the use of system event recording devices is the only way to accurately afford predictable models for reliability studies.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>PRC-019-1 language needs major work. It would appear that the intent is to reduce all generator protection down to a single sheet of paper. It is unclear as to whose benefit, the Generator Owner or the combination of Regional Reliability Organization, NERC, and the Transmission Operator. Is the Generator Owner to supply the requested information only following a request (original IIICM8 wording) or supply it within 5years and then wait and show proof within 30 days of being asked for verification? With regard to requirement R1.1.3 it is up to the system studies entity to develop the steady state stability limit information for each generator bus and supply it to the Generator Owner.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Is it the intent of requirement R5 that a request by any one of the three entities will require the Generator Operator provide the data to that entity or all three? In the past communication of data between the Generator Operator and the Transmission Operator was routine and at such times no parallel path was established with the Regional Reliability Organization or NERC. To prevent a violation must all such information be distributed at the same time to all three entities?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	11/01/10	For as long as the topics of generator model testing and governor model testing has been around I have yet to see demonstrated an effective, reasonably safe and reasonably priced test not requiring highly specialized talent and instrumentation. As long as 'testing' is used in the standard an effective date cannot be set until each specific tests is detailed, demonstrated and agreed upon.
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	11/1/10	The testing provisions of the standard may require data not taken during the last voltage regulator inspection and test cycle. Once the standard is approved full implementation should allow for a normal inspection cycle.
MOD-027-1	<input type="checkbox"/> Yes. <input checked="" type="checkbox"/> No.		As long as 'testing' is not a stated requirement for verification no delay in implementation is required. If MOD-027-1 is linked to MOD-023-1 then the effective date should also be the same.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Doug Hohlbough
Organization:	First Energy Corp
Telephone:	330-384-4698
Email:	hohlbaughdg@firstenergycorp.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/> 1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	This analysis is best performed on a Dispatcher Training Simulator or similar computer model with dynamic capabilities containing the model of the system being studied. This may not be available to all members of the industry. Those organizations without this capability would be relegated to the testing method which may or maynot be a viable option depending upons system configurations.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The definition should be revised slightly to conform more closely to the IEEE definition: Disturbance Monitoring Equipment - General name for non-continuous power system recording equipment, which includes fault recorders, disturbance recorders, and sequence of events recorders.</p> <p>All references to updating dynamic models should be removed. This process is not being widely practiced in the industry and cannot be properly used to update all dynamic data. Dynamic models are better verified using staged tests where conditions are controlled and specific monitoring is in place.</p> <p>Section 1.3 on Data Retention should be revised to: The Planning Authority and Transmission Planner shall retain disturbance data records and study results that verified or resulted in updates to steady-state models.</p> <p>Section 1.3 previously required retaining simulation results and updates that resulted. However, updates to mature electrical systems are very infrequent as the majority of the electrical system has not changed and system events have previously been used to verify system impedances. As written the standard presumes that the system models are extremely flawed and require frequent corrections which may not be the case.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>R2.2: Real power requirements of aggregate auxiliary loads at unit's net real power capability.</p> <p>It appears that the documentation that the Generation Owner maintains would not be complete unless the Owner documents pertinent unit conditions present at the time of the test (cold H2, generator winding temperatures, etc). How/where will these items be addressed?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2.1. ...including generator terminal and auxiliary bus voltage limitations.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)	I.F.M3 – Disturbance monitoring data reporting requirements	Merged into existing PRC-002-0: See R3, R4, M3, and M4.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R1.3 could be combined as a subsection under R1.2. Not sure of the need to differentiate between equipment characteristics and capabilities. Otherwise the R1.3 list under R1.3 should include a reference to digital inputs for sequence of events monitoring.
PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)	III.C.M10 – Regional procedure on generator protection operations	Merged into existing PRC-003: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The side-by-side comparison does not show a Level 1 non-compliance. The clean draft version shows a level one non-compliance. Not sure which is correct.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Differences exist in R2 between side-by-side comparison version and the clean draft.</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Not sure what the distinction is between schedules for system maintenance and schedules for system testing. Recommend that R1.4 and R1.5 be combined. Seems like Levels 1 and 2 non-compliance should refer only to PRC-005 R1 the way they are currently worded. PRC-005 R2 does not deal with the schedule for system maintenance and testing.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The purpose and R3 should refer to Disturbance Monitoring Equipment data not Disturbance data. R3, M2 and M3 should refer to PRC-018 not PRC-002.</p> <p>The addition of time synchronization requirement is OK.</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1.1 "The generator manufacturer's reactive capability curve is consistent with the generator current capability" What if it isn't?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Since there is no requirement in R1 to include information about how the loads are modelled, I assume this information would already exist in the dynamic model from data obtained through other NERC standards.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Since there is no requirement in R1 to include information about how the loads are modelled, I assume this information would already exist in the dynamic model from data obtained through other NERC standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard needs to reflect the differences in the level of work required to develop and implement requirements for evaluating new or upgraded facilities versus the work required to develop and implement requirements for evaluating and implementing upgrades for existing facilities. This topic deserves to have separate standards for RRO responsibilities and the TO responsibilities. The TOs should not be expected to do evaluations until RRO requirements are developed. Those two standards should have different implementation dates.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Proposed move of sections to VAR-002-1 is OK.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Proposed move of section from VAR-001-1 is OK.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The compliance reset timeframe should be five years. There would be no advantage to assessing compliance this year and returning next year to assess it again when the requirement is every 5 years.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
PRC-023-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	12/07	TOs and RROs need time to develop the details for the implementation of this standard. There needs to be separate schedules for the requirements for new or upgraded facilities and for existing facilities. RRO requirements must be developed first.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Brandon Snyder
Organization:	Duke Energy
Telephone:	704 373 3825
Email:	cbsnyder@duke-energy.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Requirement 6 is not a requirement. It is an understood entitlement of power. R11.2 should encompass entire standard. R5 should not contain all generators, the RRO should define exemption criteria.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	There is no generally accepted method for analyzing these events. SAR should be considered when more research is done.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Trilok C Garg
Organization:	Mirant Mid Atlantic
Telephone:	301-669-8066
Email:	trilok.garg@mirant.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input checked="" type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The standard paragraph CM1, does not clearly indicate as to how a Generator Owner is supposed to verify the reactive capability of their machines. If the intention is for the Generator Owners to actually operate the generators to verify the reactive limits, that would be practically impossible. Suggest to modify the standard to clearly indicate that the Power Dispatchers shall drive the units two times in a year, winter and summer, to their reactive limits. In case the units failed to reach the rated reactive limits, the dispatcher shall record the parameters (voltage, current, temperature, etc.) restricting the reactive load, advise the plant managers of such limiting parameters, and request a disposition of the problem.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Paragraph BR1 - Not clear, what information can be provided for ,limiters, compensators". suggest to remove the wordings - limiters, compensators.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **Southern Company - Transmission**

Lead Contact: Marc Butts

Contact Organization: Southern Company Transmission

Contact Segment: 1

Contact Telephone: 205.257.4839

Contact Email: mmbutts@southernco.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Keith Calhoun	Southern Company Services	SERC	1
Doug McLaughlin	Southern Company Services	SERC	1
Raymond Vice	Southern Company Services	SERC	1
Jim Viikinsalo	Southern Company Services	SERC	1
Phil Winston	Georgia Power Company	SERC	3
Bobby Jones	Southern Company Services	SERC	1
Lee Taylor	Southern Company Services	SERC	1
Larry Smith	Alabama Power Company	SERC	3

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Recommend that Level 3 on non-compliance be made -not applicable- and the current Level 3 description be moved to Level 4 as 2.4.3.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comment.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This standard is written from the viewpoint that all data from Disturbance Monitoring Equipment is useful in enhancing models. Some data is useful and some is not. This standard needs major wording changes as follows:</p> <p>Purpose: To use recorded disturbance data when appropriate in an attempt to validate and enhance system models.</p> <p>R1. The Planning Authority and Transmission Planner shall each use any appropriate recorded data from Disturbance Monitoring Equipment as required in PRC-002 R3.1 and PRC-002 R3.2 to validate and enhance steady-state and dynamic models.</p> <p>M1. The Planning Authority and Transmission Planner shall each provide evidence that if any useful recorded disturbance data was obtained, it was used to assess its steady state and dynamic models. This evidence shall be provided to the Regional Reliability Organization within 30 calendar days of a request.</p> <p>2.2. Level 2: Useful, available recorded data.....</p> <p>2.4. Level 4: Useful, available recorded data.....</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The regional procedures should be developed with input from Generator Owners and Operators to ensure the methodologies are safe, practical, and reasonable.</p> <p>Add R1.6: – Any field changes made by the Generation Owner or Generator Operator to the verified data described in R1.4 above shall be re-verified / tested as soon as possible. Such changes, and their associated verification/testing results, shall be reported to the region, and coordinated with the Transmission Owner, Planning Authority, and Transmission Planners within 30 days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 should not refer to summer and winter capabilities. The Regional Reliability Organization should define the seasons needed for MW verification.</p> <p>Therefore, R2.1 should be changed to: R2.1. Gross and net real power capabilities of each unit based on the power factor level expected for each unit for the seasons required by the Regional Reliability Organization.</p> <p>Under R2.3, we see no reason why date and conditions should be required.</p> <p>Southern Company Transmission recommends field testing MOD-024.</p> <p>The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as follows:</p> <p>2.1. Level 1: Verified generator data were provided and were complete for less than 90% of a generator owner's units as required by the RRO procedures.</p> <p>2.2. Level 2: Verified generator data were provided and were complete for less than 85% of a generator owner's units as required by the RRO procedures.</p> <p>2.3. Level 3: Verified generator data were provided and were complete for less than 80% of a generator owner's units as required by the RRO procedures.</p> <p>2.4. Level 4: Verified generator data were provided and were complete for less than 75% of a generator owner's units as</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Requirements R2.1, R2.2, R2.3, R2.4 belong in MOD-023. These are details that should be specified in the Regional requirements.</p> <p>We recommend deleting R2.3 and remove date and conditions from R3.</p> <p>R2 should say -The Generator Owner shall provide the Regional Reliability Organization and the applicable Transmission Planner(s) with the information required by the Region on request.-</p> <p>Since this is a new standard and will require extensive operating effort, engineering analysis, field testing and coordination to accomplish, it is recommended that NERC and the regions allow ample time for the industry to comply. A compliance phase-in period of 2-3 years is recommended.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Requirements R3.1, R3.2, R3.3, R3.4, R3.5, R3.6, R3.7 belong in MOD-023. These are details that should be specified in the Regional requirements.</p> <p>R3 should say -The Generator Owner shall, within 30 calendar days of a request, provide to the Regional Reliability Organization and applicable Transmission Planner(s) the results of excitation system model and data verification, including the information as required by the Regional procedures.-</p> <p>Same comments as on MOD-025, including levels of non compliance and the 2 - 3 year time period before being held to compliance requirements.</p> <p>R1 & R3 - The 30 day reporting requirement is too demanding, especially if a large number of units are involved.</p> <p>It is impractical for a Utility with many large generating units to accomplish in a short time period.</p> <p>R2 - We recommend that you add a note that says changes in AVR, PSS and other controls should be communicated, in real time, to TOP.</p> <p>In R3 – The model supplied has to be usable. There is a practice by certain manufacturers of supplying an unknown model which does not fit into any known stability program. The generator owner should be required to supply data that is applicable for known models that have been approved and are commonly available e.g. IEEE models. If the model is</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 – The Generator Owner shall provide modeling data to the...Organization requirements. The data shall be compatible with the standard speed governing system models available in stability programs widely used in the industry. If a new model is necessary for reasonable representation of the equipment, the new model must be developed for industry-wide use.</p> <p>Southern Company Transmission recommends the SDT better define the requirements of this standard. R2.2 should be deleted and may require a separate SAR to better define the requirements.</p> <p>The industry has not established a safe and effective means for determining the response of a generating plant to changes in system frequency. Our assessment indicates the response of generator speed and the MW output depend on the overall control system applied at the plant not just the governor.</p> <p>If these requirements are adopted then Southern Company Transmission comments for MOD-025 regarding field testing, implementation, levels of non compliance and reportability should apply.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 - Need to clarify what is meant by -categories- of devices.</p> <p>Also, the term -all- as used here should be removed due to that it would imply no limitations. The scope of generator protection systems defined in the regional procedures should be reasonable (limited to only what is necessary.)</p> <p>What is intended by RRO reviewing -all- misoperations?</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 & M1- Recommend that SDT clarify and state what is meant with the statement -implement a mitigation plan to avoid future misoperaitons- . Wouldn't it read better to say -implement a mitigation plan in an effort to prevent future misoperations-.</p> <p>R2 & M2- Recommend that SDT clarify and state what is meant with the term -mitigation plan-. Does it mean the same as in R1?</p> <p>D.1.3 - Recommend replace -and accompanying mitigation plans- with -corrective actions-.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	M2 has a reference to R2 of PRC-003. This should be R2 of PRC-005. Revise R1.5. Corrective action taken to (address or reduce a) misoperation or failure to operate from reoccurring.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	M2 has a reference to R2.1 through R2.6 of PRC-002. This should be PRC-018.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of this standard is significantly greater than was in the original IIC.M8 standard and is excessive. The scope should be contained to showing coordination of the -voltage regulator control and limit functions with the generator's capabilities and protective relays-. On this basis, we recommend deletion of R 1.1.4, R 1.1.6, R 1.1.7, R 1.4. Clarify R1.2 and R1.3 as noted below.</p> <p>R1.2 should be clarified to state -When so equipped, minimum excitation limiter coordinates with the generator's underreactive capability and the loss of excitation or loss of field relay characteristic(s)-</p> <p>R1.3 should be clarified to state, -When so equipped, the V/Hz limiter coordinates with the generator and/or GSU V/Hz capabilities and the V/Hz protective relay(s)-</p> <p>All generators are not equipped with all protective system devices and excitation system limiters and devices listed here. This standard should not dictate what protection features are required, which is a matter better suited for the generator owner and transmission provider.</p> <p>Delete NERC from the first sentence in R1 and M1.</p> <p>If this standard is implemented as written, recommend 5 of the most critical units be tested per year due to the significant amount of cost and resource requirements to accomplish testing, data verification, etc.. The accomplishment of this should be coordinated with Standard MOD-026</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The title of the Standard should be changed to end with -....Data repository- vs. -Data base-.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This Standard would be too expensive to implement and would be unduly burdensome. Recommend removing this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Revise R9.1. Each Generator Operator shall provide information to its Transmission Operator on the status of all generation reactive power resources, including the status of each voltage regulator and power system stabilizer, within 30 minutes or via real time SCADA as determined by the TO</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>R1.3 - Add the qualifier -upon request-.</p> <p>Recommend revising to say, -Upon request, each Generator Operator shall report to its Transmission Operator the date, time, duration, and reason for each period when a voltage or reactive schedule for a generator was not maintained. The Generator Operator shall maintain a written log of this information for 12 rolling months.-</p> <p>R5 - Strike the words -and auxiliary-. There is no transmission reliability need for generators to provide the auxiliary transformer information to the specified entities. Afterand NERC,....add the words -prior to equipment changes and- Five (5) business days is not reasonable and should be increased to 14 calendar days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comments
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	In order to properly design schemes whose function is to save the transmission system against credible multiple contingency events, TPs and PAs must understand to what extent units can stay on-line for transmission system frequency and voltage excursions. Examples of these rescue schemes include underfrequency and undervoltage load shedding schemes. Therefore, adoption of this standard would help ensure that critical assumptions used to develop transmission rescue schemes are valid.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Need to permit relays with oscillography capability.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-024-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures. Various methods will be employed among different utilities and generators to do this verification. Some refinement in the processes and procedures are expected as experience is gained and should enhance the safety and reliability of the overall verification process. This supports the allowance of a reasonable period of time to achieve compliance.
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Same as for MOD-024-1.
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Same as for MOD-024-1.
MOD-027-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Southern Company Transmission recommends this standard be better defined to develop practical and safe methods of collecting the required verification data. If this standard is adopted then we recommend field testing as stated in our comment on MOD-024-1 above.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

General Comment on PRC-019: Historically, very few generator device coordination problems have been identified. Since this is a new standard and historical trends don't indicate widespread problems in this area, it is recommended that NERC and the regions address the generator device coordination on a priority basis and allow ample time for the industry to come into compliance. Allowing 2-3 years for existing systems to be completed should allow a reasonable amount of time for the coordination to be performed and implemented.

General Comments on the Phase III-IV Standards: Prior to their approval, each element of these "new" standards should be examined carefully to ensure the burdens imposed on generators (cost, resources, additional documentation, etc.) are justified in terms of positive and measureable impacts on grid reliability. This is extremely important to the facility owners and operators, because noncompliance with these standards will ultimately result in penalties and sanctions. Furthermore, it is imperative that compliance be achieved without undue risks to the system and generator. In the process of expediting the Phase III/IV standards development, and the limited participation to date by generation experts within the industry, we are not confident that a thorough job is being done in these areas. In addition, because these standards are setting "new" requirements and will involve significant amount of additional work and documentation, it would be appropriate to allow ample time for the industry to come into compliance. We believe it is inappropriate to issue non-compliances against industry participants for a "new" standard at its implementation date.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	John K. Loftis, Jr.	
Organization:	Dominion - Electric Transmission	
Telephone:	(804) 819-2337	
Email:	john_loftis@dom.com	
NERC Region	<input type="checkbox"/>	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Recommend that Level 3 non-compliance be made not applicable and the current Level-3 description be moved to Level-4 as 2.4.3.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard should be deleted. The idea of using disturbance data to develop models works on paper, and in theory only. In practice, to replicate an event is a major, time consuming effort. It requires several days of work just to get a power flow solution that would reasonably match field observed quantities, and much more time for a dynamics assessment. Even then, the question of which events should be considered worthy of replication for modeling purposes remains. Also, lack of proper load characteristics to a reasonable degree for different types of load may throw the comparison into a tail-spin. The question whether the difference between field results and simulation results is due to load characteristics (or some other aspect of the power system) or generator equipment modeling inaccuracies will remain. If one tries to fit generator equipment models to match field observed quantities under a single operating condition, it may not always match for a different operating condition unless generator equipment modeling is the only cause of the mismatch. The current industry environment (i.e. - deregulation, blackout follow-up investigations, etc.) have placed increasingly burdensome workloads on limited field expertise. MOD-022 detracts from more important work needed to address improved reliability.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Using the term verify is vague and subject to different interpretations by various entities. Although there is opposition to field testing generating units, it needs to be acknowledged that field testing is the best way to obtain accurate technical data, resulting in more accurate models and parameters. However, because of the large volume of tests to perform, and the high cost to perform them, field testing should be phased-in over a 5 to 8 year time period. It is not possible to test all required units within a one year time frame.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Using the term verify is vague and subject to different interpretations by various entities. Although there is opposition to field testing generating units, it needs to be acknowledged that field testing is the best way to obtain accurate unit capability. For units that run at full power most of the times (e.g. - base load units), MW capability should be accepted at that level unless the owner wants to claim higher MW capability. Because of the large volume of tests to perform, and the high cost to perform them, field testing should be phased-in over a 3 to 5 year time period. It is not possible to test all required units within a one year time frame. The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as proposed in the comments provided by the SERC Planning Standards Subcommittee (PSS).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Using the term verify is vague and subject to different interpretations by various entities. Although there is opposition to field testing generating units, it needs to be acknowledged that field testing is the best way to obtain accurate unit capability. Because of the large volume of tests to perform, and the high cost to perform them, field testing should be phased-in over a 3 to 5 year time period. It is not possible to test all required units within a one year time frame. The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as proposed in the comments provided by the SERC Planning Standards Subcommittee (PSS).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Using the term verify is vague and subject to different interpretations by various entities. Although there is opposition to field testing generating units, it needs to be acknowledged that field testing is the best way to obtain accurate models and parameters for generator equipment. Because of the large volume of tests to perform, and the high cost to perform them, field testing should be phased-in over a 5 to 8 year time period. It is not possible to test all required units within a one year time frame. The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO the levels of non-compliance should be rewritten as proposed in the comments provided by the SERC Planning Standards Subcommittee (PSS).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Using the term verify is vague and subject to different interpretations by various entities. Unless specified in another Reliability Standard, a requirement should be added to require generator owners to notify the RA, BA, and/or TO as appropriate as soon as a non-functioning or blocked speed/load governor controls has been identified. The Levels of Non-Compliance as written are on a per generator basis, and will not work well for entities that have a large number of generators. In addition, because the details of the requirements are left up to the RRO, the levels of non-compliance should be rewritten as proposed in the comments provided by the SERC Planning Standards Subcommittee (PSS).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices	III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices	Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	This proposed standard is redundant with MOD-013 and should be deleted. Power electronic devices should not be treated any differently than other devices. If this standard is not deleted, then it should be revised to require demonstration that the model adequately reproduces the dynamic response of the device, and that user documentation be provided.
PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)	I.F.M3 – Disturbance monitoring data reporting requirements	Merged into existing PRC-002-0: See R3, R4, M3, and M4.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	As written this Standard states that disturbance data from installed devices is necessary to determine causes of disturbances, and is necessary to develop, verify and update system models. Recommend softening this position with alternate wording (i.e., valuable, useful, or helpful may be substituted for necessary).

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of this standard is significantly greater than the original, and seems excessive. The cost/benefits of including these additional items should be considered. Any retained item should be clarified as to what is actually required. A more limited set of requirements would provide evidence of adequate coordination. The following is suggested: Delete R 1.1.6, 1.1.7, 1.1.4, 1.4, 1.1.3. Clarify R1.3. Delete NERC from the first sentence in R1 and delete the words unless exempted from the second sentence in R 1.</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The requirement to annually update the databases is in both R1 and R2. Suggest R2 be changed go read: The Regional Reliability Organization shall provide the current UVLS database to NERC within 30 calendar days of a request. Recommend first sentence of R1 be changed to read: The Regional Reliability Organization shall establish requirements for, maintain, and annually update a UVLS program database.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The UVLS standards should not mirror exactly the UFLS standards. UFLS and UVLS are very different in the system problems they are designed to arrest. UFLS is necessary across the interconnections since frequency deviations propagate throughout. Voltage problems are more localized phenomena. Therefore, to attempt to mandate Regional UVLS requirements would not allow flexibility to implement prudent solutions for systems. Change 4.4 to read: Load-Serving Entity that operates a UVLS program.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Add the word program to the end of 4.1, 4.2, 4.3, and 4.4. There is an omission in Section D (Compliance), Item 1.3 (Data Retention) that needs to be clarified. Item 1.3 currently reads: Each Transmission Owner, Transmission Operator, Load Serving Entity and Distribution Provider that owns or operates a UVLS program shall "?" data for two years.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Insert the following at the end of the first sentence in R2: as stated in PRC-023 R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Suggest that R6 be deleted since all of the R6 requirements are included in R7. Dominion Electric Transmission agrees with moving R9.1 and R9.2 to VAR-002.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Dominion Electric Transmission agrees with moving VAR-001 R9.1 and R9.2 to VAR-002, as R1.1 and R1.2.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Dominion Electric Transmission concurs with the addition of Planning Authorities to the list of applicable responsible parties and with including an additional requirement to develop a method and criteria for assessing adequacy of reactive power resources. Suggest that R2.1 be deleted. The requirements of R2.1 are included in R2.2. M1 should refer to 5 business days instead of 3 calendar days (typical Standards practice). The areas referred to D.2.2 and D.2.4.2 needs to be clarified.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R5 – replace excursions in voltage, frequency, and real and reactive power output of a generator with excursions in voltage and frequency.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-023 through 027	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		GENERAL COMMENT: The effective date of the old II.B related standards should be moved to a later date. Because the requirements are contingent upon the development of RRO procedures, NERC should allow the RRO sufficient time to develop or revise their regional procedures to reflect the revised Reliability Standards. Field testing will be required to verify that the new RRO procedures are appropriate. The effective date of these standards should be determined after field testing.
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures.
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Since these generator tests will take significant time and manpower to accomplish, field testing is recommended to verify these tests produce reasonable model improvements (particularly the tests required in R5).
PRC-019	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		The requirements of this standard are not clear. They appear to require an enormous amount of work which may not be practical. Therefore, field testing is recommended.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 and IV.A.M3 are not fully translated into R9 and R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>Drafting Team to clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1</p> <p>In some ISO/RTO market regions there are third party aggregators of DSM products (i.e. curtailment service providers) that are not LSEs. Thus the information requirements of R4, R5, and R7 would be met by non-LSE's.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard needs specificity and some reasonable bounds to expectations. It may be best to delete this standard and develop the concepts in a reference document.</p> <p>Replicating system disturbances is a complex and resource intensive process. The validation of system models based on the inclusion of all system disturbances seems overly burdensome and may be impractical. The word "all" is too broad a scope and needs to be better defined. These requirements may be better suited as guides in the future.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>In R1.4.2 "gross and net reactive power capability" should be defined.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>MOD-10 and MOD-12 already cover these requirements. This standard is largely redundant and should be deleted.</p> <p>R1.1 and R1.2 are unique requirements that should be added to the other standards through an ordinary SAR process.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The information gathered from disturbance monitoring equipment can be imperfect. Coupled with a wider body of information it can be used to determine system performance and root causes of disturbances.</p> <p>Modify R1 to add the word ...help (or assist) "... data is available to [assist/help] determine system performance ..." in R1.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Electric System.</p> <p>We recommend moving it the second part of the Level 4 compliance down to Level 2 and making Level 4 two or more requirements missing. This would be more appropriate for the severity of the non-compliance</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)	III.C.M11 – Analysis of misoperations of generator protection equipment	Merged into existing PRC-004: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The Requirement in R1 should be limited to only Bulk Electric System Level 1 compliance and level 3 are opposite. Switch level 3 and level 1 text. Mitigation plans are more important than reporting misoperations..
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Documentation of specific maintenance Criteria should be defined by the Regions. R1.4 and R1.5 should be dropped. Schedules are irrelevant, as long as the testing between intervals is completed.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Questions are raised whether the intention of this standard has gone beyond the scope of the original Planning Standard IIIICM8. It may be more appropriate to reintroduce and issue PRC-019-1 as a separate new standard (via the SAR process)t</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Electric System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Electric System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Electric System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p> <p>UVLS programs should coordinated at a Regional level.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Electric System.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The M1 response time should be 30 days, not 3 ?
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>We offer the following modification to the first sentence:</p> <p>Device(s) capable of detecting a Disturbance and recording System electrical data prior to and during the Disturbance.</p>
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>In the event MOD-028 is not passed, then this definition could be dropped.</p>

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>All the standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have excellent reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: " This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Ed Riley	
Organization:	California ISO	
Telephone:	(916) 351-4463	
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input checked="" type="checkbox"/> WECC	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 and IV.A.M3 are not fully translated into R9 and R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>Drafting Team to clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1</p> <p>In some ISO/RTO market regions there are third party aggregators of DSM products (i.e. curtailment service providers) that are not LSEs. Thus the information requirements of R4, R5, and R7 would be met by non-LSE's.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The requirement to use "all" disturbance data to develop and maintain models may be to large of a task. Some methodology of determining which disturbance data must be considered should be developed.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>In R1.4.2 "gross and net reactive power capability" should be defined.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>MOD-10 and MOD-12 already cover these requirements. This standard is largely redundant and should be deleted.</p> <p>R1.1 and R1.2 are unique requirements that should be added to the other standards through an ordinary SAR process.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Electric System.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Electric System</p> <p>Level 1 compliance and level 3 are opposite. Switch level 3 and level 1 text. Mitigation plans are more important than reporting misoperations..</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Documentation of specific maintenance Criteria should be defined by the Regions.</p> <p>R1.4 and R1.5 should be dropped. Schedules are irrelevant, as long as the testing between intervals is completed.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Electric System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Electric System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Electric System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p> <p>UVLS programs should coordinated at a Regional level.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Power System.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The M1 response time should be 30 days, not 3.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>We offer the following modification to the first sentence:</p> <p>Device(s) capable of detecting a Disturbance and recording System electrical data prior to and during the Disturbance.</p>
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>In the event MOD-028 is not passed, then this definition could be dropped.</p>

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		All the standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have some laudable reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	There appears to be a typo in Requirement R10. We suggest removing the word [associated] in the second line. In Requirement R9, Measure M1, and Level of Non-compliance 2.4.2, we suggest changing the word [simulation(s)] to [calculations]. In this context, simulations could lead some people to believe that powerflow studies need to be performed. However, in many cases, a simple hand or spreadsheet calculation may be all that is needed to show that the plan will work as designed.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses	It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	We agree that it is appropriate to drop this standard at this time. However, we would like to emphasize that lack of a NERC Standard in this area does not prohibit entities from submitting dynamic characteristics for their loads to their Region if they so desire.
II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals	From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	We agree that it is appropriate to drop this standard at this time.
II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics		<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	We agree that it is appropriate to drop this standard at this time. However, we would like to emphasize that lack of a NERC Standard in this area does not prohibit entities from submitting dynamic characteristics for their loads to their Region if they so desire.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	D. Bryan Guy	
Organization:	Progress Energy, Inc.	
Telephone:	919-546-4107	
Email:	bryan.guy@pgnmail.com	
NERC Region	<input type="checkbox"/>	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PEC supports the language used that allows for alternate methods of verifying data for modeling other than testing.</p> <p>In R1.4.1. & R1.4.2 add that data provided should include an explanation of values including metered location to insure data is consistently applied to models</p> <p>R1.4.3. & R1.4.4. RRO procedures should address methods to translate data into modeling parameters.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PEC supports the language used that allows for alternate methods of verifying data for modeling other than testing.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PEC supports the language used that allows fo alternate methods of verifying data for modeling other than testing.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>PEC supports the language used that allows fo alternate methods of verifying data for modeling other than testing.</p> <p>R4- Delete last sentence which is covered in R5.</p> <p>Revise R5 to replace "...chart recordings showing..." with "...data that includes..."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 - Delete "NERC". Also delete "Unless exempted..." in last sentence to not be repetitive with first sentence in R1.</p> <p>R1.1 - Revise the first sentence to read: "The generator reactive capability curve used shall be consistent with the generator's existing capability."</p> <p>The scope of this standard is significantly greater than was in the original and seems excessive. A more limited set of requirements will provide evidence of adequate coordination. The following characteristics are not necessary for coordination and should be deleted from requirements specifically, delete R1.1.3 (steady state stability limit) and R1.1.6 (out of step) R1.1.7 (generator backup distance relay)</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>All generator operator requirements should be removed from VAR-001-1 and reconciled with the requirements in VAR-002-1. Strike the words and auxiliary from all sections of the standard.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Exemptions for reporting requirements should be allowed for planned startup and shutdowns (R1) Strike the words and auxiliary from all sections of the standard. Add to R4 - Prior to agreeing to changes in the main step-up transformer, the Generator Operator shall consider and plan for changes to those settings and adjust auxiliary systems as necessary. The requirement for the GO to monitor grid voltage every 30 minutes is a new and unnecessary burden on the plant operator.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Since these generator tests will take significant time and manpower to accomplish, field testing is recommended to verify these tests produce reasonable model improvements (particularly the tests required in R5).
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures. Field test inter-and intra- company coordination.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **WECC Disturbance Monitoring Work Group**
 Lead Contact: R. Peter Mackin
 Contact Organization: Transmission Agency of Northern California
 Contact Segment: 1
 Contact Telephone: 916-631-3212
 Contact Email: pmackin@navigantconsulting.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Abraham Ellis	Public Service of New Mexico	WECC	1
Bharat Bhargava	Southern California Edison	WECC	1
Jim Burns	Bonneville Power Administration	WECC	1
Donald Davies	WECC Staff	WECC	2
Dan Hamai	Western Area Power Admin.	WECC	1
John Hauer	Pacific Northwest Nat. Lab.	WECC	9
Henry Huang	Pacific Northwest Nat. Lab.	WECC	9
John Hernadez	Salt River Project	WECC	1
John Kehler	Alberta Electric System Operator	WECC	2
Mike Kwok	BC Transmission Corporation	WECC	1
Harry Lee	BC Hydro	WECC	3
Ken Martin	Bonneville Power Administration	WECC	1
Darren McCrank	Alberta Electric System Operator	WECC	2
Bill Miller	Pacific Gas and Electric Co.	WECC	1
Bill Mittelstadt	Bonneville Power Administration	WECC	1
Fabio Rodriguez	PacifiCorp	WECC	1
Doug Selin	Arizona Public Service	WECC	1
Fred Henderson	Pacific Gas and Electric Co.	WECC	1

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The levels of non-compliance do not specify a timeframe for using the disturbance data and for revising or updating the models. In some cases, it can take more than a year to capture and debug the disturbance data, develop the system model base cases, and determine if the system models need revision. If the models need to be revised, the revision process can take up to another year to complete. Without a time frame for completion specified, a Transmission Planner or Planning Authority could be found non-compliant even if they are diligently revising their models at the time they are audited.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There appears to be a minor formatting inconsistency between the Requirements referenced in Non-compliance Level 1 and the Requirements referenced in Non-compliance Levels 2 - 4 (in the clean version of the posted Standard). Either they should all have underscores, or none of them should.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The WECC DMWG agrees that time synchronization status should be reported as part of each disturbance monitor's operational status. In addition, Requirement 2.4 should also include reporting the type of time input provisioning. Under part D Compliance, section 1.3, the DMWG recommends that the first occurrence of the word [data] be replaced with the word [information] to differentiate between information about the Disturbance Monitoring Equipment (DME) and the data that the DME collects. Also, twelve months may not be a long enough data retention period for disturbance monitor data. As mentioned in our comment on MOD-022, a complete analysis of a disturbance and subsequent model revisions could take more than two years to complete. Data should be retained for at least 12 months beyond the date the revised models are implemented in system studies or the date a determination is made that no model revisions are required.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>WECC RS agrees with the data reporting requirements, but has a concern with the LSE as the responsible entity. Within the WECC region, control areas (Balancing Authorities) are currently the reporting entity. Prior to legislation, perhaps a backstop should be created wherein the control area (TOP or BA) is responsible for providing data for LSEs within their area if the LSE is not providing the data.</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS suggests changing the word procedures in R1 to methods or guidelines. The term procedure can be interpreted as a prescriptive, step by step, document.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS agrees with the removal of the annual testing requirement and that it should be established by the RRO.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS agrees with the removal of the five-year testing requirement and that it should be established by the RRO.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS agrees with the removal of the five-year testing requirement and that it should be established by the RRO.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-027-1 Verification and Status of Generator Frequency Response	II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system	Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	WECC RS agrees with the removal of the five-year testing requirement and that it should be established by the RRO.
MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices	III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices	Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The WECC RS agrees with including time synchronization as one of the equipment characteristics that the Regional Reliability Organization requirements should address. If R1.2.2 is meant to indicate that the RRO will determine which facilities require time synchronization, and include this in their regional requirements, then the WECC RS agrees with the translation. For example, if R1.2.2 would allow for a Regional Reliability Organization to include in its regional requirements that all disturbance monitors for voltages above 220 kV must have time synchronization, then the WECC RS agrees with the translation. If R1.2.2 is meant to indicate that each RRO must identify in its regional requirements that all disturbance monitoring equipment must have time synchronization, then the WECC RS does not agree with the translation. Agreement with the acceptable translation will depend on the response to the question above.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS suggests that the Standard specify that the RRO identify minimum generator and plant size to apply this standard.</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS suggests that the Standard specify that the RRO identify minimum generator and plant size to apply this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS suggests that the Standard specify that the RRO identify minimum generator and plant size to apply this standard.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>WECC RS agrees with the time synchronization status reporting.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>WECC RS suggests rewording R1.1.6 to read Out of Step Characteristics. WECC RS would like clarification on R1.2.1 and R1.2. What does coordination mean and how is it documented?</p>
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It is not practical to determine all UVLS misoperations and failures because it is not practical to have monitors on all UVLS locations.
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	There appears to be an inconsistency between the redundancy requirement of this standard and TPL-003. For example, C8 in Table 1 specifically allows for a protection system failure for a single contingency. Does the redundancy requirement apply to TPL-002? WECC RS believes this standard is confusing as written. If failure of a primary protection scheme results in the same performance level as with the backup scheme, why would an entity put the redundant scheme in as part of the primary protection? If performance can be met with a backup scheme, is a redundant scheme necessary?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	WECC RS agrees with moving 9.1 and 9.2 to VAR-002-1
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	WECC RS supports this Standard. Existing WECC Standards address these requirements.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

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Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Michael C. Calimano	
Organization:	New York ISO	
Telephone:	518-356-6129	
Email:	mcalimano@nyiso.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
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<input type="checkbox"/> NA - Not Applicable		

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Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 has not been fully translated into R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, it is important that serious consideration should be given to blackstart testing more frequently than "at least every five years". Simulation of unit testing should not be allowed and there should only be a requirement to test the Units at least once every five years and any blackstart related facility on an annual basis.</p> <p>Drafting Team to clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p> <p>Suggestion to reformat the restoration plan requirements as separate bulleted subrequirements and then reformat the Blackstart unit testing section into subRequirements for clarity.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Please note the formatting correction in NPCC's comment</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Change; "..to develop, maintain, and enhance steady-state and dynamic models." to "..to enhance analysis of wide area system disturbances and validate system simulation models." The industry needs to develop widely accepted programs to implement the intent of the requirements of this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In concept collecting this information has value, the actual testing required to validate the parameters may pose adverse reliability risks during testing.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In concept collecting this information has value, the actual testing required to validate the parameters may pose adverse reliability risks during testing.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Electric System to limit the scope of the review.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Electric System to limit the scope of the review.</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This standard is contingent on the PRC-002-1 and should either be combined with PRC-002-1 or be tabled until adoption of PRC-002-1.</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed where UVLS operation was not intended.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.</p> <p>R3 should apply to all generators and not just synchronous generators.</p> <p>R9 NYISO recommends evaluating TOP-004-0 to determine if this requirement is captured within the IROL and SOL requirements. Consider incorporating the necessary language into the TOP-004 standard and deleting R9.</p> <p>R9.1 would be more appropriate as R10.1</p> <p>R9.2 is addressed in VAR-002-1 and should be removed.</p> <p>R11.2 does not have a valid purpose and should be removed from VAR-001-1.</p> <p>R12 should be in TOP-004 and be removed from VAR-001-1</p> <p>There are requirements without measurements. All requirements should have measurements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>The generators that are required to operate and report should be limited to those that are greater than 20 MWs or connected at 100KV and higher.</p> <p>NYISO recommends to remove "synchronous" throughout VAR-002-1.</p>
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>"Changes in system conditions" is vague and needs to be clarified. M3 assesment should be done every 3 years to coincide the R2 requirement.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	NYISO recommends defining "variance" and "exemption" as used within the standards. The proper location for the definitions is within the Glossary of Terms. This will eliminate ambiguous interpretations of what is meant by variances or exemptions.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>We suggest the following modification to the first sentence:</p> <p>Device(s) capable of detecting a Disturbance and recording System electrical data prior to and during the Disturbance.</p>
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		All the standards should go through a field test before adoption by the Board. Lack of completed field tests is the reason why they were omitted from the Version 0 Standards. The Phase III/IV standards add some valuable new reliability requirements. There may not, at this time, be sufficient common standard technologies and processes available to allow entities to achieve compliance with the reliability objective.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	P. D. Henderson / Khaqan Khan	
Organization:	Independent Electricity System Operator (IESO), Ontario	
Telephone:	905-855-6258	
Email:	Peter.Henderson@ieso.ca	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

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Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 and IV.A.M3 have not been fully translated into EOP-005 requirement R9, R10 and measure M2. Moreover, the Measures should also include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, consideration should be given on testing of blackstart more frequently rather than "at least every five years". Simulation of unit testing should not be allowed and there should be a requirement to test any blackstart related facility on an annual basis.</p> <p>Drafting Team to expand the term Startup Function in R9 to require both a blackstart of a unit(s) and the ability to perform restoration service.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>With regards to R1.5, the use of actual and forecast data as directly provided by the LSE must be analyzed to ensure it is properly aggregated to reflect coincident peak demands for system modeling and reliability analyses. It is suggested that the word "incorporate" be used instead of "use" in that Requirement.</p> <p>Also there is a formatting error in the clean version of this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard needs specificity and some reasonable bounds to expectations.</p> <p>Replicating system disturbances is a complex and resource intensive process. The validation of system models based on the inclusion of "all" system disturbances seems overly burdensome and may be impractical. These requirements should be based on a representative sample of reportable incidents.</p> <p>Another option is that R1 should specify the notable type of disturbances which are required to validate models.</p> <p>Also change;</p> <p>"..to develop, maintain, and enhance steady-state and dynamic models."</p> <p>to</p> <p>"..to enhance analysis of wide area system disturbances and validate system simulation models.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>As we commented in the Facility ratings SAR's, there is a need for standards that depicts a "methodology".</p> <p>In this and other MOD standards, there needs to be an addition of requirement to use the data, methods etc to actually implement model updates - several MODs just ask for an assessment, or retention of data etc only. There also needs to be some checks and penalties for providing inaccurate capabilities.</p> <p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1. A reference of requirements related to MOD-024 & 025 may be added in R1.</p> <p>R1.2, change; "Acceptable methods.." to "Guidelines for methodology.."</p> <p>In R1.4.2 we request the drafting team to define "gross and net reactive power capability".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R2.3 - Seasonality needs to be considered also - i.e. summer vs winter etc.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	With regards to R 2.1, there is a need to clarify that what is meant by maximum sustainability? Is there a limit of maximum?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R4 - Needs to clarify that when is the data required - This should be consistent with requirements R1.2 as stated in MOD-028-1</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 should be updated to include requirements to report the status immediately.</p> <p>Drafting Team should verify that the testing requirements that appear in the "S" language in the original Standard has been dropped. Is this intentional?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>MOD-10 and MOD-12 already cover these requirements. This standard is largely redundant and should be deleted.</p> <p>R1.1 , R1.2 and R3.1 and R3.2 are unique requirements that should be added to the other standards through an ordinary SAR process.</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)	III.C.M10 – Regional procedure on generator protection operations	Merged into existing PRC-003: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>The Requirement in R1 should be limited to only Bulk Electric System.</p> <p>We recommend moving it the second part of the Level 4 compliance down to Level 2 and making Level 4 two or more requirements missing. This would be more appropriate for the severity of the non-compliance</p>
PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)	III.C.M11 – Analysis of misoperations of generator protection equipment	Merged into existing PRC-004: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>The Requirement in R1 should be limited to only Bulk Electric System</p> <p>Level 1 compliance and level 3 are opposite. Switch level 3 and level 1 text. Mitigation plans are more important than reporting misoperations..</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Documentation of specific maintenance Criteria should be defined by the Regions. This should be included in R 1.2. R1.4 and R1.5 should be dropped. Schedules are irrelevant, as long as the testing between intervals is completed.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Questions are raised whether the intention of this standard has gone beyond the scope of the original Planning Standard III.C.M8. We suggest that SDT should reconsider the inclusion of this standard (in its present form) into Phase III/IV planning standards. It may be more appropriate to introduce and issue PRC-019-1 as a separate new standard (via SAR process).
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The scope of the UVLS database should be limited to systems that can affect the Bulk Power System. Many UVLS systems are quite local in nature, and independent from other systems. The approach to Under Voltage schemes should not be the same as that for underfrequency as UFLS is a single distributed system.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Electric System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to Under Voltage should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Electric System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Questions are raised regarding the dropping of Generator Operators from this standard. It seems that there is a lot of responsibility placed on the Generator operators to notify the Transmission operators. Moreover, in addition to requirements laid down in section 9.1 & 9.2 of VAR-001 there are other requirements given in section R3 & R5 etc that necessitates the retention of Generator operator application in this standard.</p> <p>R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Electric System.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The M1 response time should be 30 days, not 3 days.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Typo in "Proposed Effective Date" . It mentions October rather than November.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>We offer the following modification to the first sentence:</p> <p>Device(s) capable of detecting a Disturbance and recording System electrical data prior to and during the Disturbance.</p>
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>In the event MOD-028 is not passed, then this definition could be dropped.</p>

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>We suggest that the effective date to comply with the Standards be 6 months from the date of their adoption by the Board. We feel that all the standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: " This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

ref: MOD-023-1 R1.2

Most models should be validated by tests. Where available, we suggest the use of standard test procedures (e.g. IEEE 115).

ref: MOD-023-1 R1.4

We suggest the following additions to the "data verification parameters to be reported" requirement:

- generator impedances**
- time constants**
- saturation coefficients**
- inertia**

ref: MOD-024-1 R2.1, M2, Levels of non-compliance 2.3 and 2.4.2

We suggest replacing 'real' power with 'active' power.

ref: MOD-026-1 Requirements

We suggest adding a requirement for Generator Owners to provide automatic to manual AVR tracking validation.

ref: MOD-026-1 Requirements

We suggest adding more tests to ensure the stabilizers are working properly (e.g. Step Tests)

ref: MOD-026-1 R1

**We suggest replacing the term 'data' with 'models and data' in the sentence:
"The Generator Owner shall, within 30 calendar days of a request, provide to the Regional Reliability Organization and applicable Transmission Planner(s) 'data' associated... "**

ref: MOD-026-1 R2

**We suggest replacing the term 'verify' with 'validate' in the sentence:
"The Generator Owner shall 'verify' the data used in..."**

ref: MOD-26-1 R3

If any of the information outlined in this requirement is unavailable, we suggest obligating the Generator Owner to perform tests that are necessary to verify the model.

ref: MOD-027-1 Requirements

We suggest updating requirements to make these more explicit for validation of Deadband and Droop.

ref: PRC-019-1 R1.1

**We suggest deleting 'manufacturer's' in the following sentence:
"The generator 'manufacturer's' reactive capability curve..."**

ref: VAR-001-1 R1

We suggest changing the reference of MVAR as Mvar, as this is a SI abbreviation.

ref: VAR-001-1 R10.2

We suggest addition of a requirement/obligation for the Generator Operator to log information and times where they needed to run the generator to control power factor or reactive power.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
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Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>References to EOP-005 Attachment in R1 needs to be deleted and the applicable elements need to be added into the requirements, including a requirement that the TOP must provide its plan to the RRO upon request.</p> <p>R2 should qualify the level of "changes in the power system network" that would require the Transmission Operator to review and update its restoration plan to ensure that R2 only requires the review and updates when network changes occur that could impact the restoration plans.</p> <p>R7 requires that the verification of the restoration procedures by actual testing or by simulation. Actual testing should be removed from the standard because "actual" testing of the restoration procedure is impractical since it would adversely impact customers.</p> <p>R8 should be the responsibility of the RRO and not of the individual Transmission Operators.</p> <p>References to EOP-005 Attachment in the Compliance section needs to be deleted.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Agree that the amount of controllable DSM load should be reported (R4) but there should not be a requirement to report the location of customer load. The amount of controllable load is needed to determine the level of adequacy of Resources. Collecting the location of controllable load would be used only in situations where deliverability of resources is a concern. If there is a requirement to report the location of controllable customer load, it should only be a requirement on an aggregated basis over a geographic region when there are deliverability concerns. Requiring that entities report the location of all controllable customer load is burdensome and not worthwhile.</p> <p>R6 should be changed to "Each Regional Reliability Organization shall use" (delete "A requirement that" at the beginning of R6), since the RRO should not develop a procedure requiring itself to something.</p> <p>M1 should be in Section C. (Measures) and the requirements at the end of the measure should be R2 to R5, not R1 to R6.</p> <p>Compliance section should be Section D and the requirements in Level 2 and 4 of non-compliance should both be R2 - R5 (not R1 only).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This proposed standard should be deleted. Event re-creation is a very time-consuming and complex task that the RRO should undertake as needed, but should not be a reliability standard. The RROs should be given discretion in selecting disturbances to be studied and in interpreting the study results.</p>
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R3 should not be a requirement. It is a measure that is already covered in M3.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The language in MOD-024-1 and MOD-025-1 are duplicative, and should be combined into one standard. Generator Owners cannot respond to MOD-024 and -025 independently. The standard should consider requiring the GO to verify the "D" Curve capability.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The language in MOD-024-1 and MOD-025-1 are duplicative, and should be combined into one standard. Generator Owners cannot respond to MOD-024 and -025 independently. The standard should consider requiring the GO to verify the "D" Curve capability.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirements for the proposed standard should be limited to R1 only. Delete R2 - R5. MOD-23 gives the RRO the responsibility to identify the required testing and the verification requirements. While it is important to have accurate excitation system models, the reliability improvement gained does not always justify the manpower requirements to test and verify the interconnected synchronous generators.</p> <p>If R2 - R-5 remain requirements for this standard, we do not support this as a standard.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>In R2.2. delete everything after the comma (including date conditions of the verification). This phrase only applies if there is a system event that the Generator Owners could use for verification.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In R1.1. at "at least 60 days" into the requirement before "prior to their installation or change." The phrase in M1 "allowing enough time to perform studies of potential impacts before the new or changed, etc." is subjective and vague and should be clarified. M1 should then be changed to match the language in R1.1.</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1 - delete the word "comprehensive" or define "comprehensive" so that the requirements are clear and measurable.</p> <p>R2 & R4 - There is not a reliability need to provide this data to "other Regional Reliability Organizations". Delete referenecees to "other Regional Reliability Organizations" in both R2 & R4.</p> <p>D.1.4 - Need to define who can file a complaint and what constitutes an event that would trigger an audit.</p> <p>Section D2 - Levels of Non-Compliance should be condensed to remove repetitive language and remove references to the "old" planning standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Re-word the beginning of R1.1. to be consistent with the structure used in the standard. Remove "The procedure shall identify" and replace with "Identification of".</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>PRC-016 SPS Misoperation analysis should be merged into PRC-004, with the same requirements as PRC-004.</p> <p>In R2, remove (within 30 calendar days). In PRC-003 R1.3, the RRO must describe the periodicity and R2 should not preclude the RRO from establishing different reporting requirements.</p> <p>Levels of Non-Compliance (1, 3 and 4) each refer to PRC-003 R1. It is inappropriate to refer to requirements in other standards. The levels of non-compliance should only address measures in this standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>PRC-008 UFLS Maintenance Program, PRC-011 UVLS Maintenance Program, and PRC-017 SPS Maintenance Program should be merged into PRC-005. The R1 requirements are the same and the UFLS, UVLS, SPS identification can be designated in R1.1. These programs should all be consolidated into one standard.</p> <p>In D2, Levels of Non-Compliance - Combine Level 1 and Level 2 into a single Level of Non-Compliance so that existing Level 1 OR existing Level 2 becomes the new Level 1. A situation where the documentation being complete but the implementation is behind schedule (existing Level 1) may or may not be a worse situation than the documentation being incomplete but the implementation of that portion is on schedule.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The levels of Non-Compliance address the installation of Disturbance Monitoring Equipment at "all required locations". The requirements in PRC-002 does not specifically address "required locations". This area is indirectly addressed in R1.5 and R1.6, but it is not clear that the "all required locations" in this standard points to R1.6 of PRC-002.
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator's short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	This standard is asking for a great deal of information in a poorly defined format. The standard should address misoperation, miscalibration or miscoordination of the generator overexcitation protection. The standard should be re-written to focus on controls and protection systems during times when lagging reactive output could cause system concerns.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R1.5 - R1.8 should not be requirements within the standard. While these items should be considered during the development of a UVLS scheme, this level of detail should not be reported to or monitored by the RRO.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	R1.5 - R1.8 should be replaced with a new R1.5 that states - Information on related islanding schemes, load restoration scheme or related generator protection, as appropriate. This information should only be collected when it provides information that is necessary to evaluate the effectiveness of the UVLS program.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Eliminate R1.3 - The simulation of the event. While the simulation of some UVLS events may be valuable, simulation of all events should not be a requirement. For example, there would not be any system reliability benefit in simulating an inadvertent operation of a UVLS that results in a small load loss.</p> <p>Level 2 and Level 3 of non-compliance are based on the requirements in PRC-002. It is not appropriate to base non-compliance of this standard on the requirements and measurements of other standards. The levels of non-compliance should only be based on requirements and measurements contained in this standard.</p>
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Delete this standard. Redundancy requirements are already specified in Table 1, footnote e of Standards TPL-003-0 and TPL-004-0.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Need to define voltage or reactive schedule and use consistently in the standard.</p> <p>Delete R9.1 and R9.2 and re-word R5 to include clearly defined requirements of the Transmission Operators and Generator Operators.</p> <p>Generator Operators should be required to determine the reactive setpoint required to maintain generator stability, not Transmission Operators. Clearly delineate the responsibilities for interconnection stability (Transmission Operator) and generator stability (Generator Operator).</p> <p>R3, R10 and R11 need to be re-written to clarify the intended requirements.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Delete R1 – Since the methods and criteria are Region and area specific, this requirement cannot be used to determine if the “correct” methods and criteria are being applied. The reactive assessment should be comprehensive and should not be limited in scope by methods and criteria that were previously adopted. As the system changes over time, with load growth and new facilities, any methods and criteria may need to be changed in order to correctly assess the correct balance between static and dynamic reactive power requirements. R2 & R3 are adequate to ensure that the system has adequate reactive resources in the correct balance.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Remove subrequirements R2.1, R2.2 and R2.3 and delete - based on: - from the end of R2. The RRO should develop the appropriate criteria based on the specifics within the RRO.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No Comment</p>
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No Comment</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No Comment</p>
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No Comment</p>
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No Comment</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No Comment
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No Comment
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No Comment
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No Comment
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No Comment

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

Group Comments (Complete this page if comments are from a group.)

Group Name: **SPP Transmission Working Group**

Lead Contact: Alex Lau

Contact Organization: Southwest Power Pool

Contact Segment: 2

Contact Telephone: 501-6143339

Contact Email: alau@spp.org

Additional Member Name	Additional Member Organization	Region*	Segment*
Ronnie Frizzell	Arkansas Electric Cooperative Co	SPP	4
Noman Williams	Sunflower Electric Power Coopera	SPP	1
Don Taylor	Westar Energy	SPP	1
Jim Useldinger	Kansas City Power & Light	SPP	1
John Fulton	Southwestern Public Service	SPP	1
Matt McGee	American Electric Power	SPP	1
Sam McGarrah	Empire District Electric	SPP	1
Mitch Williams	Western Farmers Electric Coopera	SPP	1
John Chiles	ETEC	SPP	4
Mak Nagle	Entergy	SPP	1
Jim Kistner	Associated Electric Cooperative,	SPP	1
Alex Lau	Southwest Power Pool	SPP	2
Phil Crissup	Oklahoma Gas & Electric	SPP	1
Howard Conus	City Utilities of Springfield, M	SPP	1
Alan Myers	Aquila Networks	SPP	1
David Sargent Southwestern Power	Southwestern Power Administratio	SPP	1

* If more than one Region or Segment applies, indicate the best fit for the purpose of these comments. Regional acronyms and segment numbers are shown on prior page.

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Title should be changed to System Restoration because standard covers more than restoration plan, includes policy portions in R11. Applicable to TPs and PAs. R1-remove APPLICABLE, each plan should address all of the elements of EOP5. If they apply simply states it.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)	II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data	Merged with existing MOD-016-0. See R1.2 and M1.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Under B (requirement), item M1 be removed. Its not a requirement.
MOD-022-1 Use of Disturbance Data to Develop and Maintain Models	I.F.M5 – Use of disturbance data to develop and maintain models	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Defination of DISTURBANCE is too broad. Need a list of qualifying disturbances. Type of models, or component that needs to be validated should be identified.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Should have R1.5, should have verification documentation requirement, as asked for in MOD 24-27. R2 & M2 should include the Planning Authority. Refer to Funtional Model, Planing Authority, 1c.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title should say VERIFICATION OF SUSTAINABLE GENERATOR GROSS AND NET REAL POWER CAPACITY. Net Real Power should be defined. RRO should require physical testing. R2 & M2 should include the Planning Authority. Refer to Funtional Model, Planing Authority, 1c.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title should say VERIFICATION OF SUSTAINABLE GENERATOR GROSS AND NET REACTIVE POWER CAPACITY. Net Reactive Power should be defined. Remove phrase INCLUDE GENERATOR TERMINALS VOLTAGE LIMITATIONS in R2.1. Move it to R2.2. R2 & M2 should include the Planning Authority. Refer to Funtional Model, Planing Authority, 1c.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title should read VERIFICATION OF GENERATOR EXCITATION SYSTEM AND VOLTAGE CONTROL MODELS. Purpose should be changed to the first sentence of the old standard. R1 & R3 should include the Planning Authority. Refer to Funtional Model, Planing Authority, 1c.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Title should read VERIFICATION OF GENERATOR SPEED GOVERNING SYSTEM MODELS . Change purpose to first sentence of II.B.S5. R1 & R2 should include the Planning Authority. Refer to Funtional Model, Planing Authority, 1c.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Standard asked for preliminary model and data after in service date. You need the data to do reliability study once the control system is design, you ought to be able to get the data. Date should be changed to November 1, 2005 to be consistent with other standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.1 & R1.2 contradict. R1.1 should be deleted. R1.6 should be R1.1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Version 0 drafting team recognizes that there are generation owners that owned relays that were involved in the protection of the transmission system. Disagree with proposed deletion.</p>
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Version 0 drafting team recognizes that there are generation owners that owned relays that were involved in the protection of the transmission system. Disagree with proposed deletion.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 - what is the reasoning that a generator would be exempt ? This is a direct translation but it is relevant. Generator operator should be added to the Applicability section. Why does the generator owner need to report this to NERCF? This is a direct translation but is it necessary since the GO/GOP report to the RRO ? Purpose - IN REAL TIME should be removed. R1.1 - Third sentence, no standard that requires RRO to define requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R1.3 and R1.4 sounds like an application guide, not a standard. Planning Authority needs to be included in PRC-006 and other UVLS standards. No requirement for RRO to coordinate UVLS within the region if it exist.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This is a planning authority function.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>No timeline for voltage schedules. R12 - no standard for NERC Voltage Stability Analysis in associated limits.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>No timeline for voltage schedules. R12 - no standard for NERC Voltage Stability Analysis in associated limits.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Requirement for developing a methodology and criteria for the assessment reactive resources should be done on a regional basis and therefore should be the responsibility of RRO.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Temporary Excursion needs to be defined and put into glossary. R2 - Sentence should be ended after R1, delete the words BASED ON. Delete R2.1, R2.2 and R2.3.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Ought to go to NAESB.</p>

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

MOD23-27 should include Planning Authorities.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	SPP Generation Working Group
Organization:	SPP, Southwest Power Pool
Telephone:	501-614-3275
Email:	kgoolsby@spp.org
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input checked="" type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input checked="" type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>SPP is dedicated to having a reliable electric system. We understand and appreciate the importance of having accurate data in models to achieve this goal. The goal of testing should be to provide valid generating data to be used in the model. However we don't want to be required to perform any testing that would threaten the reliability of the system, potentially damage generators or where significant cost would be incurred without the addition of valued data. Each of these tests cost money, whether performed in-house personnel or outsourced, so we want to make sure we really gain data whose value is appropriate to the cost of the test.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 We don't understand why gross is needed. For grid operations, NERC should be concerned about capability to place real energy on the grid and not what's produced internally. We believe gross data to NERC is superfluous and emphasis should be on high quality required data and not high volumes of data. We have billable quality meters at interconnect for net, but not inside plant for gross. Providing gross real energy would require additional expense to get billable quality meter in the plant and we don't see any benefits. If the standard said either gross or net, that would be acceptable to us.</p> <p>R2.2 We don't understand why auxiliary loads are needed if net real power capabilities are provided</p> <p>Compliance:</p> <p>If the "one calendar year" will allow "Operation Test" as currently done in SPP and actual test once every three years, then "one calendar year" is acceptable. If the "one calendar year" means we must perform an actual test every year this is not acceptable. Performance of the actual test is much more time consuming and difficult to complete.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 Again, we don't understand why gross is needed. It is understood that the AEP methodology for calculating revenue requirements was at the terminal bus. However AEP is now proposing a new methodology, stating their old methodology is outdated . For grid operations, they should be concerned about capability to place reactive power on the grid, at the point of interconnect, and not what's produced at the generator's terminals. We believe it is going to be extremely difficult, if not impossible to measure a generator's full capability to produce reactive power and maintain system voltage to some degree of acceptability. The machine may well be capable of injecting and/or absorbing more VARS then the system can allow while maintaining voltage at an acceptable level.</p> <p>R2.3 We don't understand why auxiliary loads are needed if net reactive power capabilities are provided</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2: To obtain this data the generator will need to inject/absorb the maximum amount of VAR it can produce at various MW level. Hence you have similar operating problems and coordination problems as discussed in MOD-025. R5: This test requires the unit to be off line. Some units are scheduled to be on line over 18 months prior to an overhaul. Taking the unit off line, strictly for testing, could be very costly due to the replacement energy cost might be natural gas base as opposed to a coal base. Hence the time between tests must to be longer then one year. Compliance: Similar testing concerns to as discussed in MOD-025. This testing will require sophisticated monitoring equipment. A concern exists that if the entire country adopts this standard there will not be enough equipment nor manpower to get it done in such a short period. Taking the unit off line, strictly for testing, could be very costly due to the replacement cost of energy might be natural gas as opposed to coal that the unit to be tested is burning. Hence the time between tests must to be longer then one year. If a company has similar units, we would propose that one unit be tested and those characteristics would be applied to other similar units in the company’s fleet, similar to WECC’s testing procedure. GWG believes a minimum of a five year testing cycle is more appropriate</p>

o If a company has similar units, we would propose that one unit be tested and

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1 To verify this data each individual unit will need to be tested. It is anticipated that part of this testing would include purposely tripping of the unit off line to obtain some data.. For this to occur, a high level of coordination is needed between the balancing authority, generation owner and pool. Extra caution must be taken with this type testing to help ensure the reliability of the system is not impacted and the unit is not damaged. Hence the frequency of this type test should be held to a minimum. R2.2 Same concerns as R2.1. Hence the frequency of this type test should be held to a minimum. Compliance: Many of these tests require the unit to be off line. Some units are scheduled to be on line over 18 months prior to an overhaul. Taking the unit off line, strictly for testing, could be very costly due to the replacement cost of energy might be natural gas as opposed to coal that the unit to be tested is burning. Hence the time between tests must to be longer then one year. If a company has similar units, we would propose that one unit be tested and those characteristics would be applied to other similar units in the company’s fleet, similar to WECC’s testing procedure.This testing will require sophisticated monitor equipment. GWG believes a minimum of a five year testing cycle is more appropriate</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
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- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
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<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
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<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

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Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)	IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements	Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Auxillary and net outputs cannot be measured at many combustion turbine sites.</p> <p>Auxillary loads at steam plants cannot always be tied to a specific unit. Example: coal conveying equipment is powered by Unit 1 but coal but same coal is burned in Units 2 & 3.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Full reactive testing annually is totally impractical. Requirements for reactive capabilities need to be specify operating conditions such as system voltage, real power, house load, hydrogen pressure, etc. Reactive capability varies by transmission system conditions which are outside the control of generator.</p>
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Requirements need to be more specific. What method of verification is acceptable? There is not standard test out there.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Generator can only provide design data. Response to responses to frequency excursions can not be measured, frequency characteristic is unknown and can vary. How can generator come up with data?</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Generator can only provide design data. Response to responses to frequency excursions can not be measured, frequency characteristic is unknown and can vary. How can generator come up with data?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Need more specifics on tests required, procedures, schedules, etc. expected. Scope is unclear and possibly too broad,</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>What disturbance monitoring equipment is acceptable? Need to define synchronous requirements.</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	In R2, a operational range that is not harmful to the generator needs to establish and recognized by the transmission operator before a generation operator can required to be instructed to maintain a synchronous voltage or reactive output level by the transmission operator.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input checked="" type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input checked="" type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input checked="" type="checkbox"/>	
<input type="checkbox"/> SERC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> WECC	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> NA - Not Applicable		

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Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 has not been fully translated into R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, it is important that serious consideration should be given to blackstart testing more frequently than "at least every five years." The Drafting Team should clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p> <p>We suggest to reformat the restoration plan requirements as separate bulleted subrequirements and then reformat the Blackstart unit testing section into subRequirements for clarity.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.5 - The use of the actual and forecast data as directly provided by the LSE must be analyzed to ensure it is properly aggregated to reflect coincident peak demands for system modeling and reliability analyses. It is suggested that the word "incorporate" be used instead of "use" in that Requirement.</p> <p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Suggested change to R1: Specify the type of disturbances which are required to validate models.</p> <p>Also change:</p> <p>"..to develop, maintain, and enhance steady-state and dynamic models."</p> <p>to</p> <p>"..to enhance analysis of wide area system disturbances and validate system simulation models.</p> <p>In addition this may be more appropriate to be a Guide rather than a Standard as the inclusion of all system disturbances in the validation of system models seems onerous and unmeasurable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>R1.2, change;</p> <p>"Acceptable methods.."</p> <p>to</p> <p>"Guidelines for methodology.."</p> <p>In R1.4.2 we request the drafting team to define "gross and net reactive power capability".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-027-1 Verification and Status of Generator Frequency Response	II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system	Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The drafting Team should verify that the testing requirements that appear in the "S" language in the original Standard, has been dropped; was this intentional?

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirement in R1 should be limited to bulk power transmission.</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The requirement in R1 should be limited to bulk power transmission.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>In reference to the applicability and requirements for TOs, there should be reference to voltage classification, or whether this applies to Bulk Power System elements only. In reference to the applicability and requirements for GOs there should be reference to size of generation, or whether this applies to Bulk Power System elements only.</p> <p>Under Requirements R2, the documentation required should be described, or clarified. This clarification should state whether the documentation is a written description in paragraph form, or the copy of the organization's entire relay maintenance file.</p>
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Section C, Measures, M2 references PRC-002 R2.1 through R2.6. It appears that it should be referring to PRC-018-1 instead.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Power System.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>In Requirements, it states that each TO shall provide protection system redundancy with each new or upgraded Bulk Electric System protection system installation. The standard should address instances where physical limitations of existing installations prevent meeting all the applicable criteria items..</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Power System.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R2.2 should require that assessments be performed at least every two years, instead of every five years.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Typo in "Proposed Effective Date" November.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>The NYSRC suggests that the effective date to comply with the Standards be six months from the date of their adoption by the Board. We feel that all the standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have some laudable reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

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Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: " This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
 Do use punctuation and capitalization as needed (except quotations).
 Do use more than one form if responses do not fit in the spaces provided.
 Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
 Do not use numbering or bullets in any data field.
 Do not use quotation marks in any data field.
 Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Gerald Rheault	
Organization:	Manitoba Hydro	
Telephone:	204-487-5423	
Email:	gnrheault@hydro.mb.ca	
NERC Region	<input type="checkbox"/>	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input checked="" type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input checked="" type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>In items R5, R6 and R7, the required action frequency should be specified as a measurable amount.</p> <p>In R1 the attachment (Attachment 1-EOP-005-0) contained in EOP-005-0 should be included instead of just being referenced.</p> <p>R5: should clarify objective of the test of telecommunications facilities. R11.5.2: What is the intent of this requirement? Measures: Why wouldn't documentation of the restoration plan be a measurement? R1 requires a plan, but does not explicitly say you have to document it. The first sentence on part 5 "The Transmission Operator ...at all times" requires a plan to be provided to the RRO.</p> <p>Why do we need 11 requirements if you are only going to measure compliance to two requirements?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Heading "Measures" is missing.</p> <p>MOD-017-0 should be modified to better compliment the revised MOD-016-1.</p> <p>Purpose: What is meant by "databases can be formed"?</p> <p>Data Retention: Who is the auditor - first time mentioned in the standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The use of disturbance data to enhance system models is good practice but Manitoba Hydro does not believe that it should be mandated as a Standard. The RRO should reference this practice in its regional procedures allowing for judgement to determine which disturbances are worthy of being replicated in the modelling effort.</p> <p>Measure M1: Clarify if such evidence is required for every disturbance recorded. It should be sufficient to validate models using a few major disturbances from time to time. The standards should specify how often such validation is required.</p> <p>1.3 Data retention: Wording is confusing - disturbance data is not applied to the models, but used to validate model performance. What is meant by "updates"?</p> <p>This Standard would be difficult for the compliance team to monitor.</p> <p>Therefore Manitoba Hydro recommends it be deleted from Phase III-IV Standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Manitoba Hydro believes that generating units should be tested periodically to ensure that the data used in dynamic models is accurate. The frequency of testing should be established by the RRO.</p> <p>The wording in R1.2 should be modified to reflect this intent.</p> <p>R1.4.2: Should identify unit transformer tap range limitations, if any on the capability. Add a R1.4.5 on requirement to coordinate generator protection settings to ensure units do not trip off within normal control operating range.</p> <p>Suggest adding a R1.5: Frequency of testing every five years.</p> <p>R2: A requirement should be added on the RRO to indicate how a revision to the procedures may impact the generators already tested.</p> <p>Add clarification that these requirements also apply to refurbished units.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R2.3: Physical testing of the generator should be required. Also, what is the frequency of testing required? The wording in M2 should be modified to add "of request" after "30 calendar days".</p>
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Requirements should include consideration of the unit transformer tap and tap range in reactive capability. Also, frequency of testing should be specified.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Include a requirement to coordinate unit protection settings with the excitation limiters and frequency of testing required.</p> <p>R3.7: What is meant by "method of verification"?</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2.1: Why aren't GOs required to report non-functioning or blocked speed/load governor controls immediately? As written, if there is not a request, the blocked speed/load governor would never be reported.</p> <p>R2.2: the frequency response test should be a physical test. Frequency of testing should be specified.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Applicability: Standard should clarify specifically for what the TO and TOP each are responsible.</p> <p>There should be a requirement to document the settings and strategies for the Power Electronic Control Devices.</p> <p>M1: need to be more specific than "allowing enough time to perform studies of potential impacts".</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Purpose: may be to validate models, but not to develop them.</p> <p>R1: add a requirement for frequency of testing. R2: change "within 30 calendar days of the approval of a revision" to "within 30 calendar days of approval of the requirements or subsequent revision". R4: same as for R2 above.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Purpose: Remove "and maintenance and testing programs" since the requirements do not deal with maintenace and testing.</p> <p>R2:Add the word "establish and" before "maintain document". Also, change "within 30 calendar days of the approval of a revision" to "within 30 calendar days of approval of the document or subsequent revision".</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Purpose: The purpose statement does not appear to be reflected in the requirements. The purpose should be to "ensure coordination of the generator controls with the generators capabilities and protection to ensure that generator tripping does not occur when the generator is operating within capabilities. R1: there should not be exemptions for this coordination requirement. R1.1.4 also add GUS tap range to the list in the brackets.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Purpose: Is not reflected in the requirements there is no requirement to implement UVLS programs. Based on the requirements, the purpose is "to maintain and update a database of the UVLS programs.</p> <p>R1: Add the word "establish" before "maintain and annually update". Modify M! accordingly.</p> <p>Also. I suggest adding a R1.9 requiring that the UVLS program be documented to describe its purpose, and expected operating scenario.</p> <p>Levels of non-compliance: Level 1: How does one determine if the database provided is incomplete?</p> <p>Should there be non-compliance if the RRO does not update the database annually?</p> <p>This standard and PRC-021-1 need to require coordination with other UVLS programs within the region and with other regions.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Purpose: The pupose appears to be to require an entity to provide data annually if it owns and operates a UVLS program.</p> <p>This standard and PRC-020-1 need to require coordination with other UVLS programs within the region and with other regions.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Purpose: There is no requirement to implement an UVLS program, just to analyze and document operation of the UVLS program if an entity has one.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This proposed standard should be guideline for design of protection systems. Redundancy should not be mandated. If a standard is required, the requirement should be that for a single common mode failure, the protection system must operate to clear a fault such that the system performance requirements in TPL-002, 003 & 004 are met.</p> <p>R1.1: Clarify what is meant by separate ac current inputs. Is it acceptable to supply each relay system from a separate secondary winding of a current transformer? Do breaker failure relays and line protections require separate ac supplies?</p> <p>R2: Is a separate plan for reviewing the need for redundancy required? Seasonal and long term assessments already required by the NERC standards, assess system performance based on knowledge of protection characteristics.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>This standard should apply to all generators, not just synchronous generators.</p> <p>R2: How does one measure if reactive resources are sufficient? Also, clarify contingency conditions- Cat B, C & D?</p> <p>R8: requires reactive resources to support voltage under first contingency. Does this conflict with R2?</p> <p>The wording in R3 should be modified so it is not mandatory for each generator to have a voltage schedule. For vertically integrated utilities the process of managing voltage and reactive control may be performed in a way such that a voltage schedule for each generator is not actually produced and communicated through a formal process which should be acceptable.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 –</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
	Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)				
VAR-003-1 Assessment of Reactive Power Resources	ID.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>The adequacy of reactive power resources is verified by system assessments in TPL-001 to 004. Meeting the performance requirements implies adequate resources. This standard is redundant.</p> <p>A standard defining a minimum reactive reserve requirement may be more meaningful.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>R1: should be minimum requirements. Different regions may have more stringent requirements.</p> <p>R2: There should be no general exemptions - all generators should be to operate during temp. excursions.</p> <p>This standard seems out of place in the VAR category</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>Good planning practices should assess sensitivity to customer dynamic demand characteristics. Worst case assumptions can be applied where it is critical. Demand forecasts are best guesses. The only certainty is that they are wrong.</p>
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It should be understood in this definition that a disturbance includes pre-fault and post-fault period monitoring.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The levels of compliance are inconsistent across the standards. While it is not reasonable to expect consistency for widely different standards, there should be consistency for related standards.

Many of the standards do not use the Functional Model definitions. An example is that the RRO is often the responsible entity when it should be the Planning Authority.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:	Vinod Kotecha	
Organization:	Con Edison	
Telephone:	212 460 3507	
Email:	kotechav@coned.com	
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input checked="" type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	<input type="checkbox"/>	
<input type="checkbox"/> NA - Not Applicable	<input type="checkbox"/>	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>IV.A.M2 has not been fully translated into R10 and measure M2.</p> <p>The Measures should include other restoration plan measures, not only those related to blackstart.</p> <p>In R9, it is important that serious consideration should be given to blackstart testing more frequently than "at least every five years". Simulation of unit testing should not be allowed and there should only be a requirement to test the Units at least once every five years and any blackstart related facility on an annual basis.</p> <p>Drafting Team to clarify the term Startup Function in R9 to distinguish between simple blackstart of a unit(s) and the ability to perform restoration service.</p> <p>Suggestion to reformat the restoration plan requirements as separate bulleted subrequirements and then reformat the Blackstart unit testing section into subRequirements for clarity.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.5 the use of the actual and forecast data as directly provided by the LSE must be analyzed to ensure it is properly aggregated to reflect coincident peak demands for system modeling and reliability analyses. It is suggested that the word "incorporate" be used instead of "use" in that Requirement.</p> <p>Also there is a formatting error in this Standard. M1 as it appears in the Requirements Section needs revision. R1 should be the Section and R2-R8 should be "sub" requirements due to the language at the end of R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Suggested change to R1; should specify the type of disturbances which are required to validate models.</p> <p>Also change;</p> <p>"..to develop, maintain, and enhance steady-state and dynamic models."</p> <p>to</p> <p>"..to enhance analysis of wide area system disturbances and validate system simulation models.</p> <p>In addition this may be more appropriate to be a Guide rather than a Standard as the inclusion of all system disturbances in the validation of system models seems onerous and unmeasurable.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1 requires the RRO to establish procedures that require generator owners to provide certain information. These procedures should include all the requirements included in MOD-024-1 and MOD-025-1 that apply to generator owners, that in some cases are more specific than now shown in MOD-023-1.</p> <p>R1.2, change;</p> <p>"Acceptable methods.."</p> <p>to</p> <p>"Guidelines for methodology.."</p> <p>In R1.4.2 we request the drafting team to define "gross and net reactive power capability".</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<p>We believe this to be an important issue and reactive resource requirements are presently being developed at the FERC and until such Criteria has been developed and agreed upon this standard should continue to be developed. Until the above is accomplished the current practices the Regions are pursuing should be maintained. In addition, due to the local nature of reactive capability, only local and Regional Criteria should apply. (rearrange)</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Although in concept collecting this information has value, the actual testing required to validate the parameters could be a detriment to reliability. NERC needs to consult with those who perform dynamic analysis and seek their input and weigh it appropriately.</p>
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Drafting Team to verify that the testing requirements that appear in the "S" language in the original Standard, has been dropped, was this intentional?</p> <p>There is also an analysis currently underway regarding the response of unit governors on August 14 and also how they relate to existing system models. Results of the analysis need to be weighed in developing the appropriate standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Power Transmission.</p>
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The Requirement in R1 should be limited to only Bulk Power Transmission.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R1.2 The documentation of specific maintenance Criteria should be defined by the Regions.</p>
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Has the intent of this Standard gone beyond the scope of the original Planning Standard IIICM8? Recommends it be remanded back into the SAR process as a new standard, and removed from this set.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. Shunt reactor tripping under low voltage condition should be allowed and the UVLS should not be limited to tripping load when it’s not necessary to do so. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The scope of the UVLS database should be limited to systems that can affect the Bulk Power System.</p> <p>Many UVLS systems are quite local in nature, and independent from other systems. The approach to UV should not be the same as that for underfrequency as UFLS is a single distributed system.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The scope of the standard should be limited to systems that can affect the Bulk Power System. The performance of the program should be tested with and without shunt reactor tripping, where necessary.</p> <p>Simulation of all operations of UVLS seems onerous and it is recommended that simulations should only be performed for reportable incidents.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The standard should not be too prescriptive because there may be physical limitations that may not allow redundancy measures to be implemented.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	R2 should refer to Table 1 in TPL-001-0 to 004-0 for those contingency conditions that shall be considered.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The generators that are required to operate and report should be limited to those that are considered to be part of the Bulk Power System.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	The M1 response time should be 30 days, not 3? R2.2 should require that assessments be performed every year. Regions should be allowed to continue present practices.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Typo in "Proposed Effective Date" November.

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
III.B.M1 – Assessment of transmission control devices	This requirement is included within the scope of existing standards TPL-001 through 004.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M1 – Documentation of Regional load restoration policies and programs	Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M2 – Documentation of automatic load restoration programs	where appropriate. If the standard was approved, it would apply only to a small number of entities.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs	Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
IV.B.M4 – Automatic load restoration equipment maintenance requirements	restoration plans and procedures specific to each entity owning and operating such systems.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Capture pre-fault information.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
All	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		<p>We suggest that the effective date to comply with the Standards be atleast 6 months from the date of their adoption by the Board. The standards should go through a field test. Lack of performing a completed field test process and implementation is the reason why they were omitted from the Version 0 Standards. This has not yet been addressed. Furthermore, although the standards have some laudable reliability requirements there may not, at this time, be sufficient standards and processes available to allow entities to achieve compliance with the reliability objective.</p>
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

Many of the proposed Phase III/IV standards are revisions of Version 0 standards that have been adopted. However, the clean versions of these standards do not indicate such. Therefore, we suggest that the second sentence on the first page of each of these standards be revised as follows: " This proposed standard is a revision of _____, which translates planning measure(s) _____. This (These) measure(s) was (were) not included"

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information		
(Complete this page for comments from one organization or individual.)		
Name:		
Organization:		
Telephone:		
Email:		
NERC Region		Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/>	1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/>	2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/>	3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/>	4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input type="checkbox"/>	5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/>	6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/>	7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/>	8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/>	9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC		
<input type="checkbox"/> NA - Not Applicable		

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Measure contains additional requirements of supplying a document within 30 days – this is a requirement, move to R9</p> <p>Levels of non-compliance do not cover R8.</p> <p>The level of Non-compliance use the words "element" and "requirement" but it is not clear what is intended, e.g. (1) does R8 contain 3 elements or is it an element and where is this defined and (2) is R8 concerned addressed if one or two of the three components included under R8 are addressed.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>R2-R7 should be sub-bullets of R1. Can't tell if compliance is to be measured against R1 or R1 through R7. It appears that the "clean version" file is different from the mapping file.</p> <p>Standard is missing section C heading for Measures. It appears that the "clean version" file is different from the mapping file.</p> <p>Measure 1 adds a requirement not contained in the Requirements for this standard. This should be in requirements..</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Levels of non-compliance add additional requirements not contained in the requirements section of this standard. Need to improve requirements.</p> <p>The levels of non-compliance are difficult (and therefore subjective) to measure. As written, it is too vague to be effective. Need more specification on what information is to be used and how evidence of use can be established.</p> <p>Remove 30 days from M1 and move to requirements.</p> <p>This is a data gathering set of requirements and should not be a compliance program concern. As written, it is too vague to be effective. Need more specification on what information is to be used and how evidence of use can be established.</p> <p>Do not reference requirements from other standards as they are likely to change and may conflict with this standard. Also if the referenced standard is judged non-compliant, how can this standard be checked for compliance.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 3 is measured against R1.2 but that requirement states “acceptable methods . . . but not limited to . . .”. This would imply that any method is okay so how do you measure compliance? This needs to be rewritten to state if each of these methods must be all included or if anyone can be included.</p> <p>M2 is difficult to measure. 30 days need to go to requirements. Measure works if requirement stated what constitutes “available”, such as posting information on a website or change the measure to state how the entity should document that information was provided on request or available.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No compliance related comments</p>
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 references R 2.4 but there isn't an R2.4. It appears that the "clean version" file is different from the mapping file.</p> <p>M2 introduces "validation" instead of verification. Not sure if this is a change in the requirement.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 is difficult to measure and may be going beyond the stated requirements. Compliance is a function of finding the appropriate Regional documents and basically doing a Regional compliance check – more a Regional compliance program.</p> <p>Level 3 needs to be rewritten to include R4 which appears appropriate for inclusion.</p> <p>R1 Remove the “within 30 days of a request” here and in every requirement that it shows up. Data, documentation, etc should be available whenever requested. This makes short notice audits difficult and does not allow for checking that things are done in real time, such as checking that documents are readily accessible to operators.</p> <p>M1 seems to go beyond the stated requirement.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Does Level 1 only address the “date and conditions of the verification”? Something more important to reliability seems to be missing.</p> <p>Level 3 can’t be measured since Requirement 1 doesn’t state what information is to be included. “Conditions” in R2.2 needs to be expanded so that compliance will be meaningful for reliability.</p> <p>Level 4 is confusing and seems to try and catch four different elements of only two requirements. It appears to be judging compliance on 4 issues. Rewording may be needed for clarity.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 3 adds a new requirement of “with sufficient time” that is not part of the standard’s requirement R1.1 . M1 needs to be reworded to correct "with sufficient time" vagueness.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The levels of non-compliance seem to be focused of making sure that as many things as possible are included and not focused on which requirements are critical to reliability. SDT provide a priority list so levels can be rewritten to reflect reliability.</p> <p>The levels of non-compliance must be rewritten to have only meaningful elements. SDT provide a priority list so levels can be rewritten to reflect reliability.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No compliance related comments</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)	III.C.M11 – Analysis of misoperations of generator protection equipment	Merged into existing PRC-004: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>These levels are not appropriate. Compliance should be based of this standard’s requirements, which it is not. This standard should not have requirement obligations from another standard. This creates a situation where two standards are dependent on each other. If one is not compliance, the second cannot be audited.</p> <p>Either eliminate R2 and M2 or move these to PRC-003. This standard should not have requirement obligations from another standard. This creates a situation where two standards are dependent on each other. If one is not compliance, the second cannot be audited..</p>
PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)	III.C.M12 – Maintenance and testing of generator protection systems	Merged into existing PRC-005: See R1, R2, M1, and M2.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Levels 1, 2, and 3 have an additional requirement “was not on schedule” which is not part of the standard’s requirement. These statements must be removed. Compliance should be based on “adherence” to schedule or days.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 references another standard. You must not judge compliance of this standard by imposing additional requirements not contained in this standard. Reference to old measurements being replaced/retired is inappropriate.</p> <p>Reference to other standards can cause future conflict problems as standards change and cause compliance auditing problems if referenced standard are non-compliant.</p>
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No compliance related comments</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-020-1 Under-Voltage Load Shedding Program Database</p>	<p>III.E.M2 – Undervoltage load shedding program database</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 uses the words “was incomplete”. What does this mean? It is “assumed” that R1.1 through R1.8 states the “complete’ database. If there are 100 locations per R1.1 then there better be corresponding items for R1.2, etc. The words should be modified if this assumption is correct.</p> <p>Also the levels do not cover the "annual update" requirement in R1.</p>
<p>PRC-021-1 Under-Voltage Load Shedding Program Data</p>	<p>III.E.M1 – Under-Voltage load shedding program documentation</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 2 needs to be consistent with R1. It needs words to check if the need for update was done every year and was updated if appropriate.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Levels reference PRC-002, should be PRC-022.</p>
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>This standard must not include provisions of another standard as its requirements. R1 must be re-written. Also, the standard should address performance expectations and not redundancy. This is an old measurement that in theory was absorbed in the TPL standards. This standard would give ways or options to modify relay schemes if a TPL assessment shows that the entity cannot meet performance requirements.</p> <p>The use of the word "incomplete" needs to be defined.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Level 1 Only deals with reporting documentation and not with real-time operations as required by much of the standard.</p> <p>Level 3: unsure what is being measured? Is it any directive from the TO that is being measured versus real-time voltage/reactive? What amount of data is required? This draft creates a standard made up from an incomplete V0 standard and 3 Phase 3 – 4 planning measurements. The result is confusing unless the original V0 requirements/measures/levels of non-compliance can be modified. It would be more complete and accurate if the proposed standard only merged Phase 3-4 planning measurements.</p> <p>R3 needs to be re-written to state “Each TO shall specify a voltage schedule, voltage range, Reactive schedule, or reactive range for operations to be ...” The standard has many good requirements. However, the measures and therefore compliance levels need to reflect them.</p> <p>It may be more appropriate to include any exemptions in the Regional Differences Section of the standard..</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Levels of non-compliance are adding requirements. The 8, 16, 24 hours must be removed. Requirements must be modified.</p> <p>Remove “within 30 days”.</p> <p>This standard seems to have very similar requirements and levels of non-compliance as VAR-001. Either eliminate the redundancy (ex. Time unit was not operating with automatic voltage regular (control) in service) between the two or combine the standards.</p>
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Level 2 and 4: Who determines if the TP and/or PA assessment is incomplete in one area (since no areas are defined in the requirement). This should probably be included in the TPL standards.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>It may be more appropriate to include exemptions to a standard in the regional differences section of the standard. Otherwise there are no exemptions allowed.</p> <p>Therefore R 2, R3, and R5 (exemption and variance terms) should be eliminated.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

1 - NERC Standards are currently being drafted under a number of different formats. This is very confusing to the industry in trying to review the material. For example, the original Operating and Planning Templates had the standard or requirement as the high level description of the document and the measure as a more detailed discussion of what was to be done. Compliance was then based on what was being measured.

Now we are drafting the standards with all the details contained in the requirements section and the measure section merely being how the requirements are to be measured such as providing evidence that a requirement was followed or through a review of the documentation which is described in the requirement. Occasionally an additional requirement is added to the measures, such as requiring information be available in 30 days.

The drafts of these Phase III/IV standards are a mix of both the old and the new format. Before going forward NERC needs to ensure that a single common format will be used and then have all of these documents re-drafted in compliance with that format.

2 - Throughout these drafts, the authors have added requirements such as the document will be made available for review within 30 days of a request. If these are to be standards then each and every one of them will be reviewed on a cyclic basis and at times as a spot audit. This requirement to provide a document, log, etc. within 30 days is therefore not needed and should be removed everywhere it occurs. The 30 day stated requirement actually creates a problem for requesting information in a short time period such as a spot audit. A similar requirement to distribute a document within 30 days of a change should also be eliminated or changed to reflect the actual time period “needed” for reliable operation.

3 - Each of the standards should be reviewed individually and balloted individually. In fact as each standard is being posted for public comment again, the industry should be asked to approve each of the requirements contained in the standard. In that way we would no longer have a conversion of the old policies and planning standards but an industry support for the reliability requirements, and not just the general reliability standards. Continual questioning of the “translation accuracy” keeps inferring that this is another Version 0.

4 - The standards that delegate the real obligations/requirements to the Regions to develop need to be changed. If the Regions are the entities to establish requirements, the Regions should simply make such requirements a part of their own compliance programs and not NERC Standards. However, Regions have the option of adding Regional Standards to the NERC Standards as Regional Differences as described in the Standards Process Manual.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Jerry Nicely
Organization:	TVA Nuclear Generation
Telephone:	423-751-8236
Email:	glnicely@tva.gov
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
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<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>The RRO procedures should include definitions for gross and net real and reactive power capability (e.g. MNDC, continuous, maximum) and location of measurement.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>R5 should allow for alternatives to the open-circuit step response test, such as on-line transient data collection methods.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-027-1 Verification and Status of Generator Frequency Response	II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system	Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices	III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices	Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection	III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	The scope of this standard is significantly greater than was in the original and seems excessive. A more limited set of requirements will provide evidence of adequate coordination. Delete R 1.1.6, 1.1.7, 1.1.4, 1.4, 1.1.3. Clarify R1.3. Delete NERC from the first sentence in R1 and delete the words unless exempted from the second sentence in R 1.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>All generator operator requirements should be removed from VAR-001-1 and reconciled with the requirements in VAR-002-1. Strike the words and auxiliary from all sections of the standard.</p>
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Exemptions should be allowed for planned startup and shutdowns (R1) Strike the words and auxiliary from all sections of the standard. Add to R4 - Prior to agreeing to changes in the main step-up transformer, the Generator Operator shall consider and plan for changes to those settings and adjust auxiliary systems as necessary. The requirement for the GO to monitor grid voltage every 30 minutes is a new and unnecessary burden on the plant operator.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate dynamic demand characteristics.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Since these generator tests will take significant time and manpower to accomplish, field testing is recommended to verify these tests produce reasonable model improvements (particularly the tests required in R5).
MOD-025-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.		Recommend field testing for the purpose of coordinating this effort between Transmission Operators, Generator Operators, and Transmission Planners and development of appropriate procedures.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

To better facilitate review of draft standards, the members of the SERC GS recommend that standards applicable to GOs and GOPs be grouped together.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

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ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

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Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Barry Green
Organization:	Ontario Power Generation
Telephone:	416-592-7883
Email:	barry.green@opg.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
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<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
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This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comment

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, MOD-024-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, MOD-025-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, MOD-026-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, MOD-027-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>No comment</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, PRC-004-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, PRC-005-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, PRC-018-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>There is some inconsistency in this package of standards affecting generators, between applicability to generator owner in some cases and generator operator in others. For this standard, PRC-019-1, the applicability must lie with the generator operator. In many cases, the owner, by virtue of contractual obligations, would not have the ability to carry out the obligations imposed by this standard. In other cases, ownership could be shared and it would not be appropriate for these obligations to be shared. Therefore, the applicability of this standard more correctly belongs with the generation operator. Alternatively, if NERC chooses to be less prescriptive, it could, for the purposes of the standard, place an obligation on the owner or operator, with an obligation on the region to clarify in each case, the appropriate entity to meet the requirements.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comment
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comment

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-022-1 Under-Voltage Load Shedding Program Performance	III.E.M5 – Analysis and documentation of UVLS program performance	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comment
PRC-023-1 Redundancy of Transmission Protection Systems	III.A.M2 – Redundancy requirements for transmission protection systems.	Translation to a new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	No comment

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>R1.1 - There are some generating units that by virtue of their location and/or size have diminimus impact on transmission system limits. The standard should have provision for exclusion from this requirement for such units.</p> <p>R1.2 - The purpose of R1.2 is unclear. The AVR is used to respond to transient conditions, not to meet schedules as instructed by a Transmission Operator or Reliability Authority. Meeting such schedules is done by operator manual adjustments, whether the AVR is in service or not.</p> <p>R2 - A Generator Obligation to "maintain" generator voltage or ractive oputput could be problematic. During transient conditions, attempting to maintain reactive output at a level specified under steady-state conditions could exacerbate a problem.</p> <p>R5 - The term "auxiliary transformers" should be defined to refer only to those transmformers connected directly to the tranmission system.</p> <p>R5 - The obligations included here in are not included in Existing Standards M2, M4 or M6. Either there is another standard that is being superceded by these standards which should be listed or this requirement should be moved to an alternative standard.</p> <p>Levels of Non-Compliance: See additional comments in reponse to question 4</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	ID.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

The following is an additional comment related to Levels of Non-Compliance for standard VAR 002-1:

The definition of the levels of non-compliance are based on the accumulated numbers of "unithours" of operation out of compliance. Such a measure does not take account of the fact that not all units are equally impactful. Being out of compliance for a small hydroelectric unit is not equivalent, in terms of system impact, to being out of compliance for a large fossil or nuclear station.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Greg Ludwicki
Organization:	Northern Indiana Public Service Company
Telephone:	219-956-5332
Email:	gludwicki@nisource.com
NERC Region	Registered Ballot Body Segment
<input type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>The Planning Authority and Transmission Planner shall retain disturbance simulation results and updates.....periods. This does not seem clear could it be clarified and simplified by saying that the disturbance data should be retained.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-023-1 Procedures for Verifying Generation Equipment Data	II.B.M1 – Regional procedures for generation equipment testing	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	I interpret requirement for an annual test. Recommend a longer time frame unless operational anomalies are encountered.
MOD-024-1 Verification of Generator Gross and Net Real Capability	II.B.M2 – Verification of gross and net real power dependable capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
MOD-025-1 Verification of Reactive Power Capability	II.B.M3 – Verification of gross and net reactive power capability of generators	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>I interpret requirement for an annual test. Recommend a longer time frame unless operational anomalies are encountered, possibly 5 years.</p> <p>Verif. Reactive Power B. R2. R2.3. Reactive Power for auxiliary loads may not be available on readable meters. Is Reactive Power for auxiliary loads really necessary if net Reactive Power is available?</p>
MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls	II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data	Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>I interpret requirement for an annual open circuit response test. Recommend a longer time frame unless operational anomalies are encountered.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>If the method for response verification is a requirement for dynamic testing, one calendar year is over aggressive for dynamic testing. Our OEM’s recommendation for such testing is not periodic, but only to diagnose an apparent change in governor operation or after disassembly and/or replacement of major governor parts.</p> <p>MOD-027B. R1 Could you explain how to determine the information that you are requesting. Should the results be based on the system recovering or the system staying below 60 Hz.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Is Disturbance Monitoring equipment necessary and if so, what are the specifications of this equipment? Can a Data Acquisition System meet these requirements?</p> <p>The ECAR document 14, we just reviewed, it allowed up to 5 years for the Disturbance Monitoring equipment to be installed. I suggest possibly 5 years or maybe even adding in the Implementation phase that was put in Doc 14.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>What is the definition of a Compliance Monitor? B. R1 Is the “Procedure” going to be the ECAR Documents? The 2005 ECAR Compliance Program Schedule notes Document 14 to reference for Standard PRC-003. Document 11 actually mentions misoperations. -R1 and R1.2 What is meant by “monitoring”? There is no mention of monitoring in PRC-004. Does this mean that the RRO is to have a procedure for monitoring or the utilities? - D. 1. 1.3 Is the Compliance Monitor the RRO?</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>-D. 1. 1.3 No need to mention “The Compliance Monitor shall retain any audit data for three years.” It was mentioned in PRC-003.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Could the definition of generator protection system include a specific voltage class to use for a break point when determining which protection devices should be included? I would recommend a generator’s terminal voltage be the break point.</p> <p>R1.4 requests schedule for system testing and R1.5 schedule for system maintenance. Can a clarification be provided to differentiate the specific tasks of testing and maintenance? When is testing not maintenance and vice versa?</p> <p>Instrument Transformer: B. R1. R1.1.2 What transformers are we talking about? How do you want them tested.? This could take a lot of time and create risk depending on what transformers are being referred to. What is the expected benefit?</p> <p>- I interpret requirement for an annual open circuit response test. Recommend a longer time frame unless operational anomalies are encountered.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting</p>	<p>I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data</p>	<p>Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>- I interpret requirement for an annual test. Recommend a longer time frame unless operational anomalies are encountered, possibly 5 years.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>Coordination of Gen V. Reg. w/ Unit capability and Protection: -B. R1 States we are to prove the generator capability curve. The Minimum excitation limiter usually prevents the testing of the full generator capability. -Should also mention the Short-term Field Current ANSI Standard that most generator fields are built to.</p> <p>-I interpret requirement for an annual test. Recommend a longer time frame unless operational anomalies are encountered, possibly 5 years.</p> <p>- Add.....Testing the generators at some of the limits such as upper voltage limit could be a little tricky. It has been recommended by manufacture to lower the set point and then perform the test to verify that the limit is found; however, this does not prove the coordination with the protective relay.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>-B. R2. R2.1 could be moved to B. R2 for the 30 day response.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)	III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)	Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Would like the vebiage to read either Generator Owner or Transmission Owner to supply this information. In our company, the Transmission Operator keeps the official records.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules	III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)	Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>Would like the vebiage to read either Generator Owner or Transmission Owner to supply this information. In our company, the Transmission Operator keeps the official records.</p> <p>B. R1. R1.1 and R1.2 We concur these R9.1 and R9.2 should be moved to VAR-002.</p> <p>B. R1. R1.2 Proposed adding “automatic” between Generator’s and voltage.</p> <p>R4 &R5:Does this include load as well as non-load tap changers. Is this referring to older voltage regulator systems (load tap changers) that may just change taps to control the generator voltage?</p> <p>D.2. 2.4.2 The non-compliance for not changing the tap (settings) as requested should also include not changing the generator voltage to maintain the system voltage (R2). This is the main intent of this Standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	I interpret requirement for an annual test. Recommend a longer time frame unless operational anomalies are encountered, possibly 5 years.
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	Possibly use "Free-Way"
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	Would like to have specifics of type of recorder.
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	It still is not clear . Does this or does it not include breakers? They should specifically "Say that it does not include breakers."

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
PRC-002-1	<input type="checkbox"/> Yes. <input checked="" type="checkbox"/> No.	11-1-06	Give a 2 year dead-band to install proper monitors, due to budgetting process.
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes.		

	<input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		

Question 4: Do you have any additional comments not addressed by the other questions?

Comment

-What is the RRO’s Standard this refers to, in MOD-024-1?

-Should have another comment period after all of these comments are compiled.

-Compliance Monitoring Period and Reset timeframe: What does this mean. Not clear.

-Each Standard should indicate associated Standards. As an example:PRC-002 does not relate that it is associated with PRC-018 but PRC-018 notes that it is associated with PRC-002.

-A link with the new Standards to the old Compliance Templates, Standard (S), and Measurements (M) needs to be maintained somewhere for future reference.-We missed why the new Standards are called Version 0. Could you explain since Version 1 would have made more sense?

-MOD-024 (Verification of Gross &Net MW), MOD-025 (Verification of Reactive Power), PRC-019 ((Coordination of Gen. Voltage Regulator Controls), and VAR-004 (Gen. Performance during frequency excursions) should be delayed till after MOD-023 Standard approved.

**MOD-24 Field Testing Yes Procedure must be developed on how to test and
MOD-024**

should not be approved till after MOD-023 is approved.

**MOD-025 Field Testing Yes Procedure must be developed on how to test and
MOD-025**

should not be approved till after MOD-023 is approved.

**PRC-019 Field Testing Yes Procedure must be developed on how to test and
PRC-019**

should not be approved till after MOD-023 is approved.

**VAR-004 Field Testing Yes Procedure must be developed on how to test and
VAR-004**

should not be approved till after MOD-023 is approved

PRC-004 missoperation after PRC-003

PEC-018 Disturbance Monitoring after PRC-002

-RROs’ may need to request an extension on when they are to provide procedures. Several statements mention that the RROs’ are to provide procedure to down-streams organizations within 30 days on changes in revisions. However, with the major rewrite in the Standards this should be extended. In the case of the Disturbance Monitoring the revised ECAR Document #14 is being revised now but really should not be finalized till PRC-002 is approved. Then PRC-018 Standard and Doc. #14 should be approved at a later date.

COMMENT FORM
Draft 1 — Phase III-IV Planning Standards

This form is to be used to submit comments on Draft 1 of the Phase III-IV planning standards that were not developed in the Version 0 reliability standards project. Comments must be submitted by **June 6, 2005**. You may submit the completed form by emailing it to: sarcomm@nerc.com with the words “Phase III-IV Planning Standards” in the subject line. If you have questions please contact Gerry Cauley at gerry.cauley@nerc.net or 609-947-3885.

ALL DATA ON THIS FORM WILL BE TRANSFERRED AUTOMATICALLY TO A DATABASE.

- DO: **Do** enter text only, with no formatting or styles added.
Do use punctuation and capitalization as needed (except quotations).
Do use more than one form if responses do not fit in the spaces provided.
Do submit any formatted text or markups in a separate WORD file.

- DO NOT: **Do not** insert tabs or paragraph returns in any data field.
Do not use numbering or bullets in any data field.
Do not use quotation marks in any data field.
Do not submit a response in an unprotected copy of this form.

Individual Commenter Information	
(Complete this page for comments from one organization or individual.)	
Name:	Greg Mason
Organization:	Dynegy Generation
Telephone:	217 872-2301
Email:	gregory.mason@dynegy.com
NERC Region	Registered Ballot Body Segment
<input checked="" type="checkbox"/> ERCOT	<input type="checkbox"/> 1 - Transmission Owners
<input checked="" type="checkbox"/> ECAR	<input type="checkbox"/> 2 - RTOs, ISOs, Regional Reliability Councils
<input type="checkbox"/> FRCC	<input type="checkbox"/> 3 - Load-serving Entities
<input type="checkbox"/> MAAC	<input type="checkbox"/> 4 - Transmission-dependent Utilities
<input checked="" type="checkbox"/> MAIN	<input checked="" type="checkbox"/> 5 - Electric Generators
<input type="checkbox"/> MAPP	<input type="checkbox"/> 6 - Electricity Brokers, Aggregators, and Marketers
<input checked="" type="checkbox"/> NPCC	<input type="checkbox"/> 7 - Large Electricity End Users
<input checked="" type="checkbox"/> SERC	<input type="checkbox"/> 8 - Small Electricity End Users
<input type="checkbox"/> SPP	<input type="checkbox"/> 9 - Federal, State, Provincial Regulatory or other Government Entities
<input type="checkbox"/> WECC	
<input type="checkbox"/> NA - Not Applicable	

This questionnaire refers to Draft 1 of the proposed Phase III-IV planning standards, which are now posted for review. These proposed standards were originally considered in the development of the Version 0 standards, but were dropped from that effort based on concerns expressed by commenters during the first posting.

The drafting team has focused on translating and preserving the intent of the original planning measures, while making improvements recommended by stakeholders during the previous postings. The drafting team considered prior comments on: a) the four SARs proposing these standards; b) the draft Version 0 standards; and c) the field testing of some of the original planning standards. The drafting team has posted its response to these comments as further explanation of the proposed draft standards. In Question 1 below, the drafting team is soliciting stakeholder comments on the translation and improvements made to these standards.

Some of the Phase III-IV planning measures are not translated in this current draft. The drafting team recommends these measures be dropped because a) the requirements are already addressed in Version 0; b) the requirements are unnecessary for reliability; or c) more research is needed before a consensus standard can be developed. In Question 2, the drafting team requests confirmation by stakeholders that these measures should be dropped at this time.

The drafting team has posted a copy of the proposed new standards mapped side-by-side with the prior planning measure to facilitate comparison by commenters. This copy is probably the most useful copy to work from for review purposes. The “clean” draft of the standards that is posted is identical to the left column of the “mapping” draft, but does not have the notes of the drafting team. The drafting team has posted an index to cross reference the proposed new standards and the old standards.

Please note that in several instances the drafting team has modified an existing Version 0 standard rather than introduce an entirely new standard. This was done where the measure to be translated was closely related to a standard that has already been adopted. Each revision of an existing Version 0 standard is clearly indicated.

Question 1: The table below lists the proposed new standards, cross referenced to the original planning measures. Drafting team notes indicate how each measure was translated and where several measures were merged into a single standard. Commenters are requested to indicate a) whether they agree there is a reliability need for each proposed standard and b) whether they agree the drafting team has done an acceptable translation. A field is provided for specific comments and recommended changes. Please note that the drafting team has included some comments and questions within the posted draft standards.

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>EOP-005-1 System Restoration Plans (Revision of Version 0 Standard EOP-005-0)</p>	<p>IV.A.M2 – Demonstrate through simulation or testing that a blackstart generating unit can perform its function IV.A.M3 – Diagram the number, size, and location of system blackstart generating units and the initial transmission switching requirements</p>	<p>Merged IV.A.M2 and IV.A.M3 into existing standard EOP-005-0 as R8, R9 and R10, M1 and M2. Replaced requirement for cranking path diagrams with requirement to document cranking paths.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1. Need to include Generation Owners in Section 4(Applicability). 2. Generation Owners should be included in Section B,R4. 3. In Section B,R9 need to eliminate "its" wording as TO's may not own blackstart generating units. 4. In Section B,R10 need to change "or" in second line to "and" and change "units to be cranked" in fourth line to "units to be started."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-016-1 Documentation of Data Reporting Requirements for Actual and Forecast Demands, Net Energy for Load, and Controllable Demand-Side Management (Revision of Version 0 Standard)</p>	<p>II.D.M2 – Reporting procedures to ensure against double counting or the omission of customer demand data</p>	<p>Merged with existing MOD-016-0. See R1.2 and M1.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>MOD-022-1 Use of Disturbance Data to Develop and Maintain Models</p>	<p>I.F.M5 – Use of disturbance data to develop and maintain models</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-023-1 Procedures for Verifying Generation Equipment Data</p>	<p>II.B.M1 – Regional procedures for generation equipment testing</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.Generation Owners should be added to Section 4,Applicability 2.SectionB,R1 should be modified to read as follows:"...The Regional Reliability Organization shall,in coordination with Generation Owners,establish..."Regions should be required to involve Generation Owners when establishing the required procedures.</p>
<p>MOD-024-1 Verification of Generator Gross and Net Real Capability</p>	<p>II.B.M2 – Verification of gross and net real power dependable capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.NERC should not eliminate specifying a minimum verification frequency(annual in the current standard).NERC should provide this guidance to the Regions.Regions can always be more stringent when regional needs require more frequent verification.Therefore,suggest adding "annual" verification requirement in Sections B,R1 and C,M1. 2.Section C,M2 is missing "...of request by the Regional Reliability Organization." at the end of the section.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-025-1 Verification of Reactive Power Capability</p>	<p>II.B.M3 – Verification of gross and net reactive power capability of generators</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.NERC should not eliminate specifying a minimum verification frequency(every 5 years in the current standard).NERC should provide this guidance to the Regions.Regions can always be more stringent when regional needs require more frequent verification.Therefore,suggest adding "every five years" verification requirement in Sections B,R1 and C,M1. 2.Section C,M2 is missing "...of request by the Regional Reliability Organization." at the end of the section. 3.The proposed standard eliminated the language in Section M3 of the current standard that reads:"If safety or system conditions do not allow testing to full capability,computations and engineering reports of estimated capability shall be provided."This guidance needs to also be included in the proposed standard(suggest adding it as Section B,R2.4).</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-026-1 Verification and Modeling of Generator Excitation Systems and Voltage Controls</p>	<p>II.B.M4 – Test results of generator voltage regulator controls and limit functions II.B.M6 – Verification of excitation system dynamic modeling data</p>	<p>Translation to new standard merging II.B.M4 (R1, R2 and M1) and II.B.M6 (R3, R4, R5, R6 and M2).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.NERC should not eliminate specifying a minimum verification frequency(every 5 years in the current standard).NERC should provide this guidance to the Regions.Regions can always be more stringent when regional needs require more frequent verification.Therefore,suggest adding "every five years" verification requirement in Sections B,R1, B,R2, B,R3 and C,M1. 2.Analogous to comment #1 above, Section B,R4 should include the one year requirement that in Section M6 of the curent standard. 3.Section B,R5 appears to be a new requirement relative to the current standard and should be deleted.Also,the same wording in Section B,R4 seems to cover the intent of the current standard.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>MOD-027-1 Verification and Status of Generator Frequency Response</p>	<p>II.B.M5 – Test results of speed/load governor controls III.C.M9 – Speed/load governing system</p>	<p>Translation to new standard merging II.B.M5 (R1 and M1) and III.C.M9 (R2 and M1).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.NERC should not eliminate specifying a minimum verification frequency(every 5 years in the current standard).NERC should provide this guidance to the Regions.Regions can always be more stringent when regional needs require more frequent verification.Therefore,suggest adding "every five years" verification requirement in Sections B,R1. 2.Section D,2.1 should reference Section R1 instead of Section R2.2.</p>
<p>MOD-028-1 Provision of Models and Data for Transmission Power Electronic Control Devices</p>	<p>III.B.M2 – Provision of models and data for control devices for use in system modeling III.B.M3 – Periodic review of settings and operating strategies of control devices</p>	<p>Merged III.B.M2 (R1, R3, M1, and M3) and III.B.M3 (R2, R3, M2, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-002-1 Define and Document Regional Disturbance Monitoring and Reporting Requirements (Revision of Version 0 Standard)</p>	<p>I.F.M3 – Disturbance monitoring data reporting requirements</p>	<p>Merged into existing PRC-002-0: See R3, R4, M3, and M4.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.Generation Owners and Transmission Owners should be added to Section 4,Applicability 2.SectionB,R1 should be modified to read as follows:"...The Regional Reliability Organization shall,in coordination with Generation Owners and Transmission Owners,establish..."Regions should be required to involve Generation Owners and Transmission Owners when establishing the required procedures.</p>
<p>PRC-003-1 Regional Procedure for Transmission and Generation Protection System Misoperations. (Revision of Version 0 Standard)</p>	<p>III.C.M10 – Regional procedure on generator protection operations</p>	<p>Merged into existing PRC-003: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.Generation Owners and Transmission Owners should be added to Section 4,Applicability 2.SectionB,R1 should be modified to read as follows:"...Each Regional Reliability Organization shall,in coordination with Generation Owners and Transmission Owners,develop..."Regions should be required to involve Generation Owners and Transmission Owners when establishing the required procedures.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-004-1 Analysis and Reporting of Transmission and Generation Protection System Misoperations (Revision of Version 0 Standard)</p>	<p>III.C.M11 – Analysis of misoperations of generator protection equipment</p>	<p>Merged into existing PRC-004: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-005-1 Transmission and Generation Protection System Maintenance and Testing (Revision of Version 0 Standard)</p>	<p>III.C.M12 – Maintenance and testing of generator protection systems</p>	<p>Merged into existing PRC-005: See R1, R2, M1, and M2.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p>1.Section A4,1.2 has a typo-need to eliminate"...that owns."</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-018-1 Disturbance Monitoring Equipment Installation and Data Reporting	I.F.M2 – Disturbance monitoring equipment list I.F.M4 – Disturbance data	Translation to new standard merging I.F.M2 (R1, R2, M1, and M2) and I.F.M4 (R3 and M3). Added time synchronization requirement based on August 2003 blackout recommendation.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-019-1 Coordination of Generator Voltage Regulator Controls with Unit Capabilities and Protection</p>	<p>III.C.M8 – Coordination of generator controls with the generator’s short-term capabilities and protective relays</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.The requirements in section B,R1.1.1, B,R1.1.4,B,R1.3 and B,R1.4 are new(or at least more specific) relative to the current standard and should be eliminated if the current standard is just being "translated."If these requirements are retained,significant additional work will be required to obtain the data. 2.Section B,R1.1.6 should be revised to read:"Out of step impedance relays(if applicable)." 3.Section B,R1.3-Change the word "settings" to ""relays" in order to focus on design rather than actual settings. 4.Section B,R1.4-Strike the words"...secure settings for the..." to focus on design rather than actual settings. 4.Levels of Non-Compliance are too stringent.Suggest modifying these to making Level 4 tied to not addressing 4 of the 12 requirements in R1.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
PRC-020-1 Under-Voltage Load Shedding Program Database	III.E.M2 – Undervoltage load shedding program database	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
PRC-021-1 Under-Voltage Load Shedding Program Data	III.E.M1 – Under-Voltage load shedding program documentation	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>PRC-022-1 Under-Voltage Load Shedding Program Performance</p>	<p>III.E.M5 – Analysis and documentation of UVLS program performance</p>	<p>Translation to new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>PRC-023-1 Redundancy of Transmission Protection Systems</p>	<p>III.A.M2 – Redundancy requirements for transmission protection systems.</p>	<p>Translation to a new standard.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-001-1 Voltage and Reactive Control (Revision of Version 0 Standard)</p>	<p>III.C.M1 – Operation of all synchronous generators in the automatic voltage control mode (documentation) III.C.M3 – Generator operation for maintaining network voltage schedules (documentation) III.C.M5 – Tap settings of generator step-up and auxiliary transformers (documentation)</p>	<p>Merged into existing standard VAR-001. Merged III.C.M1 (R10 and M2), III.C.M3 (R3 and M1), and III.C.M5 (R11 and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1. Section B,R3-Suggest deleting reference to "reactive schedule"-a "voltage schedule" is the practical requirement that should be provided to the Generation Operator. 2. Section B,R3-Suggest clarifying that a voltage schedule is a range of voltage(not a specific voltage) and that voltage schedule should take into account voltage measuring accuracy and the dynamics of system voltage.The voltage schedule must also be a range of voltage(not a specific voltage) in order to comply with the R3 provisions of VAR-002-1. 3. We agree with moving R9.1 and R9.2 to VAR-002. 4. In Section B,R11 change the word "instructing" to "requiring"(consistent with the current standard). 5. There should be a "Requirement" added for the Transmission Operator to develop and provide a procedure to the Generator Operator regarding the R3 provisions of VAR-002.</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
<p>VAR-002-1 Generator Operation for Maintaining Network Voltage Schedules</p>	<p>III.C.M2 – Operation of all synchronous generators in the automatic voltage control mode (data) III.C.M4 – Generator operation for maintaining network voltage schedules (data) III.C.M6 – Tap settings of generator step-up and auxiliary transformers (data)</p>	<p>Translated to new standard merging III.C.M2 (R1 and M1), III.C.M4 (R1.3, R3, R4 and M2), and III.C.M6 (R5, R6, and M3).</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	<p><input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.</p>	<p>1.In Sections B,R1.1 and BR3 what is the basis for 30 minutes?A specific timeframe is not in the current standard.Suggest using the wording from TOP-002-0 which provides for notification "without any intentional time delay."If this requirement is retained,this timeframe is unrealistic given the multiple parties to be notified(i.e.Control Center,Reliability Coordinator,etc.) and the specific reference to time should be lengthened to 60 minutes. 2.In Section B,R3 this reporting requirement only makes practical sense if the voltage schedule is a range since you would deviate from a specified voltage virtually all the time.Suggest clarifying that the requirement relates to a "scheduled voltage range that takes into account voltage measuring accuracy and the dynamics of system voltage" and eliminate the reference to a reactive schedule. 3.Levels 2,3 and 4 of Non-Compliance are overly severe and should be reevaluated.Suggest tying Level 4 non compliance to 48 hours instead of 24 hours.Also,the wording regarding "time off" the voltage schedule needs to better defined(i.e.instantaneous vs. integrated)</p>

Proposed Standard	Prior Planning Measure(s)	Drafting Team Notes	a) Reliability Need	b) Acceptable Translation	c) Reason for negative response or additional comments.
VAR-003-1 Assessment of Reactive Power Resources	I.D.M1 – Adequate voltage resources to meet future customer demands	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
VAR-004-1 Generators Performance During Temporary Frequency and Voltage Excursions	III.C.M7 – Generators performance during temporary excursions in frequency, voltage, etc.	Translation to new standard.	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	<input type="checkbox"/> Agree. <input checked="" type="checkbox"/> Do not agree.	<p>1.Generation Owners and Transmission Owners should be added to Section 4,Applicability 2.SectionB,R1 should be modified to read as follows:"...The Regional Reliability Organization shall,in coordination with Generation Owners and Transmission Owners,establish..."Regions should be required to involve Generation Owners and Transmission Owners when establishing the required procedures.</p>

Question 2: The drafting team proposes to drop the standards listed below for the reasons cited. A more detailed justification for dropping these standards is provided in the file listed as “standards proposed for deletion”. Commenters are requested a) to indicate whether they agree each standard should be dropped and b) to provide any comments.

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>I.D.M2 – Coordinate and optimize the use of generator reactive capability</p>	<p>Already covered by TPL-001, TPL-002, TPL-003, TPL-004. Part of proposed VAR-001 (III.C.M5), VAR-002 (III.C.M6), MOD-026 (II.B.M4, II.B.M6).</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	
<p>II.D.M3 – Consistency of actual and forecast demands and controllable demand-side management data reported for reliability and to government agencies</p>	<p>Does not impact the overall reliability of the interconnected electric transmission grid. Demand-side management data is already covered in Version 0 standard MOD-016.</p>	<p><input checked="" type="checkbox"/> Agree.</p> <p><input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>II.E.M1 – Customer (dynamic) demand characteristics to be determined and reported for reliability analyses</p>	<p>It is currently not practical to implement these standards today. Objectives of III.E.M1 through M3 are important to grid reliability, but no practical guidelines exist today to ensure LSEs and PAs obtain accurate</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M2 – Requirements for determining customer (dynamic) demand characteristics to be included in procedural manuals</p>	<p>dynamic demand characteristics. From a modeling perspective, there is no common method for modeling these demand characteristics among the various programs used by the industry to assess dynamic simulations.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>II.E.M3 Load-serving entities to provide customer (dynamic) demand characteristics</p>		<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Number and Title	Reason for Proposed Deletion	a) Agree/disagree with dropping standard?	b) Please comment on drafting team notes in posted standard.
<p>III.B.M1 – Assessment of transmission control devices</p>	<p>This requirement is included within the scope of existing standards TPL-001 through 004.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M1 – Documentation of Regional load restoration policies and programs</p>	<p>Automatic Load Restoration systems are used only in parts of three regions. Regional requirements apply</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M2 – Documentation of automatic load restoration programs</p>	<p>where appropriate. If the standard was approved, it would apply only to a small number of entities.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M3 – Assessment of the effectiveness of automatic load restoration programs</p>	<p>Typically implemented at the distribution level with limited significance for Bulk Electric System reliability. Addressed in</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	
<p>IV.B.M4 – Automatic load restoration equipment maintenance requirements</p>	<p>restoration plans and procedures specific to each entity owning and operating such systems.</p>	<p><input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.</p>	

Question 3: Do you agree with the proposed new definitions of terms listed below?

Term	Proposed Definition	Reference	a) Agree or Disagree	b) Reason for negative response or additional comments.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.	Used in EOP-005	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Disturbance Monitoring Equipment	Device(s) capable of detecting and recording System electrical data during a Disturbance. Examples include sequence of event recorders, fault recorders, and dynamic disturbance recorders.	Used in PRC-002, PRC-018, and MOD-22	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	
Power Electronic Control Device	A device using semiconductor technology to provide dynamic control of one or more electric power system quantities. Examples include high voltage direct current links, static Var compensators, thyristor-controlled series capacitors, and unified power flow controllers.	Used in MOD-028	<input checked="" type="checkbox"/> Agree. <input type="checkbox"/> Do not agree.	

Question 4: The drafting team estimates the proposed standards can be balloted in August 2005 and submitted for Board of Trustees adoption on November 1, 2005. The drafting team proposes to make the standards effective upon adoption by the Board. Are there any of the proposed standards that should be made effective at a later date? If so, please indicate which standard(s) you recommend to be implemented at a later date, a preferred effective date, and your reasons for a delay. Please indicate if you believe field testing is required, the nature of the field test and why field testing is needed.

Standard Number	Field Testing Required	Recommended Effective Date	Justification for Deferred Implementation or Field Testing
MOD-026-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	7/1/07	First,per MOD-023-1 the Regions are required to determine generating unit exemption criteria to the data requirements(allow 6 months).Then for the affected units,this standard will require significant time and effort to go through data in archives to document the information(allow one year).R5 in this standard,if retained,will require unit testing as well.
MOD-027-1	<input checked="" type="checkbox"/> Yes. <input type="checkbox"/> No.	7/01/07	First,per MOD-023-1 the Regions are required to determine generating unit exemption criteria to the data requirements(allow 6 months).Then for the affected units,this standard will require significant time and effort to go through data in archives to document the information(allow one year). To verify required governor data will also likely require unit testing during unit start or shutdown.
PRC-019-1	<input type="checkbox"/> Yes. <input checked="" type="checkbox"/> No.	7/1/07	First,per MOD-023-1 the Regions are required to determine generating unit exemption criteria to the data requirements(allow 6 months).Then for the affected units,since this standard has several new(or at least more specific requirements) it will require significant time and effort to go through data in archives to document the information(allow one year).
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
	<input type="checkbox"/> Yes. <input type="checkbox"/> No.		
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Question 4: Do you have any additional comments not addressed by the other questions?

Comment

1. Some of the new NERC Reliability Standards approved on 4/1/2005 seem redundant to some of the provisions in these proposed standards. We recommend the ones cited below be evaluated further and potentially eliminated as well:

-All of MOD-023-1 seems largely redundant to MOD-013-0. Suggest deleting MOD-013-0

-MOD-024-1 and MOD-025-1 seem redundant to R13 of TOP-002-0. Suggest deleting R13 of TOP-002-0.

-For Generation Owners, all of MOD-026-1 seems largely redundant to MOD-012-0. Suggest deleting Generation Owners from MOD-012-0.

-Requirement R1.1 of VAR-002-1 seems redundant to Requirement R14 of TOP-002-0. Suggest deleting R1.1 from VAR-002-01.