Exhibit A

Modification to the definition of Protection System and associated Implementation Plan

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Definition of Protection System

Status	NERC Board Approved Date	FERC Approval Date	Definition
Old	02/07/2006	03/17/2007	Protection System – Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.
New Proposed	11/19/2010	TBD	Protection System – • Protective relays which respond to electrical quantities, • Communications systems necessary for correct operation of protective functions • Voltage and current sensing devices providing inputs to protective relays, • Station dc supply associated with protective functions (including batteries, battery chargers, and non-battery-based dc supply), and • Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

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Implementation Plan for the Revised Definition of Protection System

Prerequisite Approvals or Activities:

The implementation of the revised definition is not dependent upon any other activity.

Recommended Modifications to Already Approved Standards

The non-capitalized version of the term, "protection system" is used in the following approved standards:

- NUC-001-2 – Nuclear Plant Interface Coordination
- PRC-001-1 – System Protection Coordination

The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.

Proposed Effective Date:

Each responsible entity (Distribution Provider that owns a transmission Protection System, Transmission Owner, and Generator Owner) shall modify its protection system maintenance and testing program description and basis document(s) (required in Requirement R1 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) as necessary to reflect the modified definition of 'Protection System' by the first day of the first calendar quarter twelve months following regulatory approvals and implement any additional maintenance and testing (required in Requirement R2 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) by the end of the first complete maintenance and testing cycle described in the entity's program description and basis document(s) following establishment of the program changes resulting from the revised definition.

The original definition of "Protection System" shall be retired at the same time the revised definition becomes effective.

Exhibit B

Complete Development Record of the proposed definition of Protection System

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Timeline

- Received Request for Interpretation from Compliance Monitoring Processes Working Group (CMPWG) on January 30, 2009 regarding PRC-005-01 Requirement 1; Project 2009-10 Interpretation – PRC-005-1, R1 – CMPWG. (See link for full interpretation: Clean).
- First draft of PRC-005-2 — Protection System Maintenance standard posted for a 45-day public comment period from July 24, 2009 through September 8, 2009. The stakeholders were asked to provide feedback on the standards through a special Electronic Comment Form. There were 57 sets of comments, including comments from more than 130 different people from over 75 companies representing all of the 10 Industry Segments.
- In summary, the NERC Board of Trustees approved the Interpretation on November5, 2009 and filed with FERC. Based on the interpretation, the NERC BOT acknowledged that a reliability gap existed and directed that addressing the 'gap' be a priority. (see attached BOT minutes)
- In January, 2010 the Standards Committee directed the Project 2007-17 Protection System Maintenance and Testing (PSMT) SDT to move the definition forward in parallel with the changes to PRC-005. (see attached SC minutes and agenda package)
- June 10th - NERC Standards Committee Conference Call - discuss the Action Plan to Address FERC Directives and Standards Project Prioritization; the SC approved expediting timelines for four projects (see attached SC minutes and agenda item 3c) excerpt is here for convenience:

  2. Approve expedited timelines to complete four projects and present for board action at its August 2010 meeting.

  NERC staff has identified four projects that have completed or are expected to have completed the quality review process before June 10, 2010 and should be available for what is believed to be its final posting before industry ballot. These projects are:

  • Project 2007-01 — Underfrequency Load Shedding
  • Project 2007-17 — Protection System Maintenance and Testing
  • Project 2007-04 — Certifying System Operators
  • Project 2008-12 — Coordinate Interchange

  In the interest of advancing these projects to completion in an expedited fashion, NERC staff proposes that the SC approve a request that would permit completion of these projects and presentation for board approval at its August 5, 2010 meeting. In order to accomplish this target, the following schedule is proposed:

  - SC approves motion to expedite completion of projects (June 10, 2010)
  - Conduct 36-day formal comment period concurrent with ballot
  - Formal Comment period (June 11, 2010–July 16, 2010)

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    - Assemble Ballot Pool (June 11, 2010–July 2, 2010)
    - Conduct 10-day Ballot (July 7–16, 2010)
    - Teams Respond to Comments (July 16–23, 2010)
    - Permit modifications to requirements to improve consensus and address comments.
    - Conduct 10-day final ballot (July 23, 2010–August 2, 2010)
    - Present to board for action (August 5, 2010)
- Draft 3 of the Definition of Protection System was posted on June 11th and was balloted from July 23rd to August 2nd.
- The PSMT SDT met August 24 -26, 2010 to address the documents from the 3rd ballot of the definition.
- Draft 4 of the Definition of Protection System was posted for a 30-day formal comment and successive ballot from September 13th to October 14th. (It passed.)
- Draft 5 of the Definition of Protection System was posted for a 10-day recirculation ballot that began November 1st and ends November 11th. (It passed.)

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E-mail completed form to
maureen.long@nerc.net

Standard Authorization Request Form

Title of Proposed Standard: Project 2007-17 — Transmission and Generation Protection System Maintenance and Testing
Request Date: May 7, 2007

SAR Requestor Information	**SAR Type** (*Check a box for each one that applies.*)	
Name: System Protection and Controls Task Force (Attachment A)	☐	New Standard
Primary Contact Charles Rogers	X	Revision to existing Standards: PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs PRC-011-0 — UVLS System Maintenance and Testing PRC-017-0 — Special Protection System Maintenance and Testing
Telephone (517) 788-0027 Fax (517) 788-0917	X	Withdrawal of existing Standard
E-mail cwrogers@cmsenergy.com	☐	Urgent Action

Purpose (Describe the purpose of the standard — what the standard will achieve in support of reliability.)

The purpose of standard PRC-005 should remain "To ensure all transmission and generation Protection Systems affecting the reliability of the Bulk Electric System (BES) are maintained and tested."

Industry Need (Provide a detailed statement justifying the need for the proposed standard, along with any supporting documentation.)

In Order 693, the Federal Energy Regulatory Commission directed that changes be made to these standards.

These standards should be consolidated into a single standard to reduce the costs of compliance and a number of technical short comings in these standards should be corrected to provide reliable performance when responding to abnormal system conditions.

Brief Description (Describe the proposed standard in sufficient detail to clearly define the scope in a manner that can be easily understood by others.)

Revise PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing, to consolidate PRC-005-1, PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs; PRC-011-0 — UVLS System Maintenance and Testing; and PRC-017-0 — Special Protection System Maintenance and Testing into a single maintenance and testing standard. Standards PRC-008-0, PRC-011-0, and PRC-017-0 would then be withdrawn.

The revised PRC-005 standard should address the issues raised in the FERC Order 693 and the issues addressed in the SPCTF report "Assessment of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing; with implications for PRC-008-0, PRC-011-0, and PRC-017-0" – Attachment A to this SAR The revised standard should also address the comments submitted by stakeholders during the development of Version 0, and Phase III & IV and should reflect improvements identified in the Reliability Standards Review Guidelines – Attachment B to this SAR.

Detailed Description:

The PRC-005, 008, 011, and 017 reliability standards are intended to assure that Transmission & Generation Protection Systems are maintained and tested so as to provide reliable performance when responding to abnormal system conditions. It is the responsibility of the Transmission Owner, Generation Owner, and Distribution Provider to ensure the Transmission & Generation Protection Systems are maintained and tested in such a manner that the protective systems operate to fulfill their function.

Applicable to all four standards — The listed requirements do not provide clear and sufficient guidance concerning the maintenance and testing of the Protection Systems to achieve the commonly stated purpose which is "To ensure all transmission and generation Protection Systems affecting the reliability of the Bulk Electric System (BES) are maintained and tested."

- Applicable to PRC-017 — Part of the stated purpose in PRC-017 is: "To ensure that maintenance and testing programs are developed and misoperations are analyzed and corrected." The phrase "and misoperations are analyzed and corrected" is not clearly appropriate in a maintenance and testing standard. That is the purpose is more appropriate in PRC-003 and PRC-004, which relate to the analysis and mitigation of protection system misoperations. Analysis of correct operations or misoperations may be an integral part of condition-based maintenance processes, but need not be mandated in a maintenance standard.
- Applicable to all four standards — The standards should clearly state which power system elements are being addressed.
- Applicable to all four standards — The requirements should reflect the inherent differences between various protection system technologies.
- Applicable to all four standards — The terms "maintenance programs" and "testing programs" should be clearly defined in the glossary. The terms "maintenance" and "testing" are not interchangeable, and the requirements must be clear in their application. Additional terms may also have to be added to the glossary for clarity.
- Applicable to all four standards — The requirements of the existing standards, as stated, support time-based maintenance and testing, and should be expanded to include condition-based and performance-based maintenance and testing. The requirements for maintenance and testing procedures need to have more specificity to insure that the stated intent of the standards is met to support review by the compliance monitor.

The revised standard should also include the general improvements identified in the attached Reliability Standard Review Guidelines.

Reliability Functions

The Standard will Apply to the Following Functions *(Check box for each one that applies.)*		
☐	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
☐	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
☐	Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
☐	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
☐	Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
☐	Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
☐	Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
☒	Transmission Owner	Owns and maintains transmission facilities.
☐	Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
☒	Distribution Provider	Delivers electrical energy to the End-use customer.
☒	Generator Owner	Owns and maintains generation facilities.
☐	Generator Operator	Operates generation unit(s) to provide real and reactive power.
☐	Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
☐	Market Operator	Interface point for reliability functions with commercial functions.
☐	Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

Reliability and Market Interface Principles

Applicable Reliability Principles *(Check box for all that apply.)*	
☒	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
☒	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
☐	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
☒	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
☒	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
☐	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
☒	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
☐	8. Bulk power systems shall be protected from malicious physical or cyber attacks.

Does the proposed Standard comply with all the following Market Interface Principles? *(Select "yes" or "no" from the drop-down box.)*
1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes
2. An Organization Standard shall not give any market participant an unfair competitive advantage.Yes
3. An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes
4. An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes
5. An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes

Related Standards

Standard No.	Explanation

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	None
FRCC	None
MRO	None
NPCC	None
SERC	None
RFC	None
SPP	None
WECC	None

SPCTF Roster

Charles W. Rogers
Chairman / RFC-ECAR Representative
Principal Engineer
Consumers Energy Co.

W. Mark Carpenter
Vice Chairman / ERCOT Representative
System Protection Manager
TXU Electric Delivery

John Mulhausen
FRCC Representative
Manager, Design and Standards
Florida Power & Light Co.

Joseph M. Burdis
ISO/RTO Representative
Senior Consultant / Engineer, Transmission
and Interconnection Planning
PJM Interconnection, L.L.C.

William J. Miller
RFC-MAIN Representative
Consulting Engineer
Exelon Corporation

Deven Bhan
MRO Representative
Electrical Engineer, System Protection
Western Area Power Administration

Philip Tatro
NPCC Representative
Consulting Engineer
National Grid USA

Philip B. Winston
SERC Representative
Manager, Protection and Control
Georgia Power Company

Dean Sikes
SPP Representative
Manager - Transmission Protection, Apparatus, & Metering
Cleco Power

David Angell
WECC Representative
T&D Planning Engineering Leader
Idaho Power Company

W. O. (Bill) Kennedy
Canada Member-at-Large
Principal
Kennedy & Associates Inc.

John L. Ciufo
Canada Member-at-Large
Manager Reliability Standards (P&C/Telecom)
Hydro One, Inc.

Jim Ingleson
ISO/RTO Representative
Senior Electric System Planning Engineer
New York Independent System Operator

Evan T. Sage
Investor Owned Utility
Senior Engineer
Potomac Electric Power Company

James D. Roberts
Federal
Transmission Planning
Tennessee Valley Authority

Tom Wiedman
NERC Consultant
Wiedman Power System Consulting Ltd.

Henry (Hank) Miller
RFC-ECAR Alternate
Principal Electrical Engineer
American Electric Power

Baj Agrawal
WECC Alternate
Principal Engineer
Arizona Public Service Company

Michael J. McDonald
Senior Principal Engineer, System Protection
Ameren Services Company

Jonathan Sykes
Senior Principal Engineer, System Protection
Salt River Project

Fred Ipock
Senior Engineer - Substations & Protection
City Utilities of Springfield, Missouri

W. O. (Bill) Kennedy
Canada Member-at-Large
Principal
b7kennedy & Associates Inc.

Bob Stuart
Director of Business Development, Principal
T&D Consultant
Elequant, Inc.

Standard Review Guidelines

Applicability
Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

Purpose
Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

Performance Requirements
Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

Measurability
Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

Technical Basis in Engineering and Operations
Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

Completeness
Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

Consequences for Noncompliance
In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

Clear Language
Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

Practicality
Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

Capability Requirements versus Performance Requirements
In general, requirements for entities to have 'capabilities' (this would include facilities for communication, agreements with other entities, etc.) should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to 'maintain' their capabilities.

Consistent Terminology
To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a 'unique' definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the 'verb list' from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

Violation Risk Factors (Risk Factor)

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. A requirement that is administrative in nature;

or a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

Time Horizon
The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- **Long-term Planning** — a planning horizon of one year or longer.
- **Operations Planning** — operating and resource plans from day-ahead up to and including seasonal.
- **Same-day Operations** — routine actions required within the timeframe of a day, but not real-time.
- **Real-time Operations** — actions required within one hour or less to preserve the reliability of the bulk electric system.
- **Operations Assessment** — follow-up evaluations and reporting of real time operations.

Violation Severity Levels
The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replace existing 'levels of non-compliance.') The violation severity levels must be applied for each requirement and may be combined to cover multiple requirements, as long as it is clear which requirements are included and that all requirements are included.

The violation severity levels should be based on the following definitions:

- **Lower: mostly compliant with minor exceptions** — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details. Equivalent score: more than 95% but less than 100% compliant.
- **Moderate: mostly compliant with significant exceptions** — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements. Equivalent score: more than 85% but less than or equal to 95% compliant.
- **High: marginal performance or results** — The responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements. Equivalent score: more than 70% but less than or equal to 85% compliant.
- **Severe: poor performance or results** — The responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: 70% or less compliant.

Compliance Monitor

Replace, 'Regional Reliability Organization' with 'Regional Entity'

Fill-in-the-blank Requirements

Do not include any 'fill-in-the-blank' requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

Requirements for Regional Reliability Organization

Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity.

Effective Dates

Must be 1st day of 1st quarter after entities are expected to be compliant – must include time to provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan. The effective date should be linked to the NERC BOT adoption date.

Associated Documents

If there are standards that are referenced within a standard, list the full name and number of the standard under the section called, 'Associated Documents'.

Functional Model Version 3

Review the requirements against the latest descriptions of the responsibilities and tasks assigned to functional entities as provided in pages 13 through 53 of the draft Functional Model Version 3.

Maureen E. Long
Standards Process Manager

June 11, 2007

TO: REGISTERED BALLOT BODY

Ladies and Gentlemen:

Announcement: Comment Periods Open

The Standards Committee (SC) announces the following standards actions:

SAR for System Protection Coordination (Project 2007-06) Posted for 30-day Comment Period June 11–July 10, 2007

The SAR for Project 2007-06 — System Protection Coordination proposes to address the FERC directives in Order 693 and to address a number of technical shortcomings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines."

The purpose of the proposed standard is to assure that protection system application and performance issues are coordinated among all related entities. Please use this comment form to submit comments on this SAR.

SAR for Protection System Maintenance & Testing (Project 2007-17) Posted for 30-day Comment Period June 11–July 10, 2007

This SAR for Project 2007-17 — Protection System Maintenance and Testing proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
- PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs
- PRC-011-0 — UVLS System Maintenance and Testing
- PRC-017-0 — Special Protection System Maintenance and Testing

The SAR also proposes to address the FERC directives in Order 693 and to address a number of technical shortcomings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines."

The purpose of the proposed standard is to ensure all transmission and generation protection systems affecting the reliability of the bulk power system are maintained and tested to support reliable operation performance when responding to abnormal system conditions. Please use this comment form to submit comments on this SAR.

Standards Development Process

The *Reliability Standards Development Procedure* contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate. If you have any questions, please contact me at 813-468-5998 or maureen.long@nerc.net.

Sincerely,

Maureen E. Long

cc: Registered Ballot Body Registered Users
Standards Mailing List
NERC Roster

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

Please use this form to submit comments on the proposed SAR for Project 2007-17 — Protection System Maintenance and Testing. Comments must be submitted by **July 10, 2007**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "Protection Maintenance" in the subject line. If you have questions please contact Al Calafiore at al.calafiore@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☐	1 — Transmission Owners
	☐	2 — RTOs and ISOs
	☐	3 — Load-serving Entities
	☐	4 — Transmission-dependent Utilities
	☐	5 — Electric Generators
	☐	6 — Electricity Brokers, Aggregators, and Marketers
	☐	7 — Large Electricity End Users
	☐	8 — Small Electricity End Users
	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

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.

Background Information

This SAR proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
- PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs
- PRC-011-0 — UVLS System Maintenance and Testing
- PRC-017-0 — Special Protection System Maintenance and Testing

The SAR also proposes to address the FERC directives in Order 693 and to address a number of technical short comings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines." The goal is to provide a set of requirements that will support reliable performance when responding to abnormal system conditions.

Please review the SAR and then answer the questions on the following page. Please e-mail your comments on this form to sarcomm@nerc.net with the subject "Protection Maintenance SAR" by **July 10, 2007**.

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☐ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☐ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☐ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments:

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

Please use this form to submit comments on the proposed SAR for Project 2007-17 — Protection System Maintenance and Testing. Comments must be submitted by **July 10, 2007**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "Protection Maintenance" in the subject line. If you have questions please contact Al Calafiore at al.calafiore@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Thad K. Ness	
Organization:	American Electric Power (AEP)	
Telephone:	614-716-2053	
E-mail:	tkness@aep.com	
NERC Region		**Registered Ballot Body Segment**
☒ **ERCOT**	☒	1 — Transmission Owners
☐ **FRCC**	☐	2 — RTOs and ISOs
☐ **MRO**	☐	3 — Load-serving Entities
☐ **NPCC**	☐	4 — Transmission-dependent Utilities
☒ **RFC**	☒	5 — Electric Generators
☐ **SERC**	☒	6 — Electricity Brokers, Aggregators, and Marketers
☒ **SPP**	☐	7 — Large Electricity End Users
☐ **WECC**	☐	8 — Small Electricity End Users
☐ **NA – Not Applicable**	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

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.

Background Information

This SAR proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
- PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs
- PRC-011-0 — UVLS System Maintenance and Testing
- PRC-017-0 — Special Protection System Maintenance and Testing

The SAR also proposes to address the FERC directives in Order 693 and to address a number of technical short comings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines." The goal is to provide a set of requirements that will support reliable performance when responding to abnormal system conditions.

Please review the SAR and then answer the questions on the following page. Please e-mail your comments on this form to sarcomm@nerc.net with the subject "Protection Maintenance SAR" by **July 10, 2007**.

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☐ Yes

   ☒ No

   Comments: AEP has not had an event, due to deficiencies in protection maintenance, in it's long existence that jeopardized the reliability or availability of Bulk Power transfers. Simply combining multiple standards into one, does nothing for improving reliability.

2. Do you agree with the proposed scope of this SAR?

   ☐ Yes

   ☒ No

   Comments: On the surface, the premise of reducing costs and improving efficiencies by combining multiple standards sounds excellent. Having to only keep up with one standard instead of four will not generate significant savings due to the fact that the maintenance will still have to be performed. But what lies hidden, is the fact that prescribed maximum allowable maintenance intervals will result from the revisions. They may require more frequent testing to be performed. Is there evidence that increasing the interval frequency results in a measurable increase in reliability and availability? Development of prescribed maximum intervals that are vastly different than the utility's existing practices may actual increase their O&M costs and reduce efficiencies.

   The function of the protective system needs to be taken into account. The purpose of the line protection is very different than the purpose of UFLS/UVLS and SPS's. The UFLS program is there as the last line of defense against a decaying system after all other measures have failed. The combination of all the different relaying systems places them on equal ground. Shouldn't the reliability and dependablilty for one be more important than the others?

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

Regional Variance: None
Comments: None

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice: Possibly
   Comments: AEP and other utilities, with many years of experience serving customers and supporting the electric grid, have voluntarily integrated maintenance and testing programs into the core of their work practices and processes. AEP fully supports improvements if they truly foster reliability and availability benefits to bulk power transfers. More Standards, Requirements and Business Practices are not always better. If Standards create burdens on a utility's physical resources and budgets, then some mechanism must be available to allow for the needed changes.

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: The standard should not use the term Bulk Electric System, but should instead specify a voltage threshold for impacts to bulk system transfers - specifically; 'Facilites operated 200 kV and above and Regionally-defined, Operationally Significant facilities operated greater than 100 kv, but less than 199 kV'. The term 'affects' also needs to be clarified. Inclusion of all facilities greater than 100 kV does not benefit the reliability of national bulk power transfers. For example, the loss or misoperation of a 138 kV line serving a localized load center would not be detremental to bulk power transfers multiple busses away.

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Dean Bender	
Organization:	Bonneville Power Administration	
Telephone:	(360) 418-2040	
E-mail:	dabender@bpa.gov	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☒ **WECC** ☐ **NA – Not Applicable**	☒	1 — Transmission Owners
	☐	2 — RTOs and ISOs
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Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

Additional Member Name	Additional Member Organization	Region*	Segment*

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You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments: No known regional variance

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: In the "Detailed Description" section of the SAR, it states:
   "Part of the stated purpose in PRC-017 is: "To ensure that maintenance and testing programs are developed and misoperations are analyzed and corrected." The phrase "and misoperations are analyzed and corrected" is not clearly appropriate in a maintenance and testing standard. That is the purpose is more appropriate in PRC-003

and PRC-004, which relate to the analysis and mitigation of protection system misoperations. Analysis of correct operations or misoperations may be an integral part of condition-based maintenance processes, but need not be mandated in a maintenance standard."
The analysis of SPS misoperations is handled in PRC-016 (SPS Misoperations) and PRC 012 (SPS review Procedure) not in PRC-003 or PRC-004. Therefore, if the phrase is removed from PRC-017, it does not need to be added to PRC-003 or PRC-004.

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Nancy C. Denton	
Organization:	Consumers Energy Company	
Telephone:	517-788-1310	
E-mail:	ncdenton@cmsenergy.com	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☒ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☐	1 — Transmission Owners
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Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

Additional Member Name	Additional Member Organization	Region*	Segment*

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1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance: N/A
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice: N/A
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: None.

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Greg Rowland	
Organization:	Duke Energy	
Telephone:	704-382-5348	
E-mail:	gdrowlan@duke-energy.com	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☒ **RFC** ☒ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☒	1 — Transmission Owners
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Group Comments (Complete this page if comments are from a group.)

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

Additional Member Name	Additional Member Organization	Region*	Segment*

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You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☐ Yes

   ☒ No

   Comments: Combining PRC-005, 008, 011 and 017 into one new standard does not seem to be the best approach. Duke Energy does not have UVLS systems or Special Protection Systems. Furthermore, Duke Energy's Underfrequency Load Shedding system is on the transmission system in the Carolinas, but on the distribution system in the Midwest. Combining these standards would likely create confusion and compliance issues for us and others as well. Also, combining the standards is unlikely to result in simplification, as different requirements associated with the different protection systems could have different Violation Risk Factors and levels of non-compliance, which would necessitate keeping them separate in the combined standard, which would defeat the purpose of combining them in the first place.

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:

Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments:

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Doug Hohlbaugh	
Organization:	FirstEnergy	
Telephone:	330-384-4698	
E-mail:	hohlbaughdg@firstenergycorp.com	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☒ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☒	1 — Transmission Owners
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	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: FirstEnergy Corp

Lead Contact: Doug Hohlbaugh

Contact Organization:

Contact Segment:

Contact Telephone: 330-384-4698

Contact E-mail: hohlbaughdg@firstenergycorp.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Craig Boyle	FE, Tranmission Substation Maintenance	RFC	1
Ken Dresner	FE, Fossil Generation	RFC	5
Bill Duge	FE, Nuclear Generation	RFC	5
Dave Powell	FE, Transmission Planning & Protection	RFC	1
Jeff Mackauer	FE, Transmission Planning & Protection	RFC	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.

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1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments: Bullet #5 of the "Detailed Description" on page SAR-2 indicates the following:

   "Applicable to all four standards — The requirements of the existing standards, as stated, support time-based maintenance and testing, and should be expanded to include condition-based and performance-based maintenance and testing. The requirements for maintenance and testing procedures need to have more specificity to insure that the stated intent of the standards is met to support review by the compliance monitor."

   FE supports the scope of the SAR to consider adding the ability for condition-based and performanced based testing, as suggested by the System Protection and Control Task Force. Additionally, the SDT should consider the need to perform some level of preventative maintenance on a periodic basis at an established maximum interval length, that would vary per the equipment being maintained. The interval established would be based on established guidelines from vendors, EPRI, industry experts, etc.

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments: The inclusion of the Distribution Provider is generally needed for UFLS and UVLS relays. The confusion that previously existed in PRC-005 by including the DP entity should be mitigated by the proposed consolidation of the four maintenance standards.

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

Regional Variance:
Comments: Not aware of any.

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments: Not aware of any

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: None.

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
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	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: FRCC

Lead Contact: Eric Senkowicz

Contact Organization: FRCC

Contact Segment: 10

Contact Telephone: 813-207-7980

Contact E-mail: esenkowicz@frcc.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Alan Gale	City of Tallahassee	FRCC	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.

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments: Centralizing System Protection equipment maintenance and testing requirements in a single standard will add clarity, minimize synchronization issues across standards, help provide consistent terminology and improve understanding of system protection standards.

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☒ No

   Comments: Use of subject matter experts (NERC SPCTF) along with the NERC Planning Committee review of the assessment is an effective and efficient way to supplement project SARs and provides critical input at the front-end of the standards process.

   Attachment A is described as the SPCTF assessment, but attachment A to the SAR is the SPCTF roster. The assessment referenced in the scope of the SAR should include "Draft 1.0" if the full assessment is not included as part of the SAR.

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☐ Yes

   ☐ No

   Comments: This question may be better addressed as the standards are integrated.

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:

Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: There are many standards being addressed (Disturbance Monitoring, System Protection Coordination, Reliability Coordination, along with Regional standard developments). As these standards are integrated into PRC-005, the existing and new terminology should be consistently applied in all system protection standards (with respect to defined terms). Where terms are undefined or being revised, the drafting team should carefully consider the terms used to ensure coordination of revised or new definitions with other Reliability standards or flag conflicts within the implementation plan.

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Roger Champagne	
Organization:	Hydro-Québec TransÉnergie	
Telephone:	514 289-2211, X 2766	
E-mail:	champagne.roger.2@hydro.qc.ca	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☒ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☒	1 — Transmission Owners
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Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

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- PRC-017-0 — Special Protection System Maintenance and Testing

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Please review the SAR and then answer the questions on the following page. Please e-mail your comments on this form to sarcomm@nerc.net with the subject "Protection Maintenance SAR" by **July 10, 2007**.

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☒ No

   Comments: Each requirement needs to specifically address what protection systems need to comply with the standard - i.e. a generator not connected to the BPS with under frequency trip relay should only be subject to under frequency relay maintenance requirements

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance: None
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments: none that we know of

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: Due consideration should be given to potential difficulties in obtaining required outages. System reliability concerns may preclude performing maintenance at

the intervals required. Certain unavoidable delays like the inability to schedule outages for reliability reasons, labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude needs to be provided, with "appropriate" approvals, for delays in the testing process.

There is need to specify which types of relays will be covered by the new standard. The SAR Team needs to focus on better defining the Generator Protection Schemes (“GPS”) that would be subject to this Standard – i.e., what subset of GPS are critical to bulk power system operation, as distinct from generator operation. For example, typically there is no single generating unit that would, if a contingency event occurs on that generating unit, result in significant adverse impacts outside of the local area in which the single generating unit is located. As a result, if these NERC Standards are to apply to all NERC-registered Generators, only a subset of the GPS need to be subjected to the maintenance testing intervals.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

Please use this form to submit comments on the proposed SAR for Project 2007-17 — Protection System Maintenance and Testing. Comments must be submitted by **July 10, 2007**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "Protection Maintenance" in the subject line. If you have questions please contact Al Calafiore at al.calafiore@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Ron Falsetti	
Organization:	IESO	
Telephone:	905-855-6187	
E-mail:	ron.falsetti@ieso.ca	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☒ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☐	1 — Transmission Owners
	☒	2 — RTOs and ISOs
	☐	3 — Load-serving Entities
	☐	4 — Transmission-dependent Utilities
	☐	5 — Electric Generators
	☐	6 — Electricity Brokers, Aggregators, and Marketers
	☐	7 — Large Electricity End Users
	☐	8 — Small Electricity End Users
	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

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.

Background Information

This SAR proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
- PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs
- PRC-011-0 — UVLS System Maintenance and Testing
- PRC-017-0 — Special Protection System Maintenance and Testing

The SAR also proposes to address the FERC directives in Order 693 and to address a number of technical short comings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines." The goal is to provide a set of requirements that will support reliable performance when responding to abnormal system conditions.

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments:

   1. The IESO commends NERC, the SDT and the SPCTF for providing clarity and for efforts to reduce the costs of compliance.

2 In the Standard PRC-008-0, Generation Owners were not included in the applicable entities. Generation Owners may have underfrequency tripping devices for protection of their units. Hence, it would be appropriate to include these devices for maintenance and testing requirements also.

3. There is need to specify which types of relays will be covered by the new standard. The SAR Team needs to focus on better defining the Generator Protection Schemes ("GPS") that are critical to bulk power system operation, as distinct from generator operation. For example, a single generating unit may experience contingency events that would not result in any significant adverse impacts outside the local area in which the single generating unit is located. As a result, there remains a need to subject those GPSs that are important to the Bulk Power System, such as generator underfrequency trip settings, to the maintenance testing intervals to be derived in these standards.

4. Certain unavoidable delays like the inability to schedule outages for reliability reasons, labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude needs to be provided for delays in the testing process.

5. However, the SAR team needs to also consider, as part of its scope, assurance that the asset owner has taken all appropriate steps to ensure that required outages are appropriately planned, can be reasonably accommodated, and approved by the TOP or RC.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Tony Clark	
Organization:	Manitoba Hydro	
Telephone:	204-487-5478	
E-mail:	tclark@hydro.mb.ca	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT**	☒	1 — Transmission Owners
☐ **FRCC**	☐	2 — RTOs and ISOs
☒ **MRO**	☒	3 — Load-serving Entities
☐ **NPCC**	☐	4 — Transmission-dependent Utilities
☐ **RFC**	☒	5 — Electric Generators
☐ **SERC**	☒	6 — Electricity Brokers, Aggregators, and Marketers
☐ **SPP**	☐	7 — Large Electricity End Users
☐ **WECC**	☐	8 — Small Electricity End Users
☐ **NA – Not Applicable**	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

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.

Background Information

This SAR proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
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- PRC-017-0 — Special Protection System Maintenance and Testing

The SAR also proposes to address the FERC directives in Order 693 and to address a number of technical short comings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines." The goal is to provide a set of requirements that will support reliable performance when responding to abnormal system conditions.

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☐ Yes

   ☒ No

   Comments: There is a need to better define and explain the terms "maintenance" and "testing" as they relate to this standard. Also a tighter definition as to which systems are considered to affect the BES is required. The need to improve the standard is driven by the administration of the standard rather than reliability.

2. Do you agree with the proposed scope of this SAR?

   ☐ Yes

   ☒ No

   Comments: We disagree that there is a need to change the standard to include more specificity for maintenance and test procedures. We also disagree with mandating minimum maintenance intervals for protection system equipment.

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☐ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

Comments: Manitoba Hydro takes exception to the prescriptive nature of the proposed changes to the maintenace procedures and maintenance intervals. The type of maintenance performed and the minimum maintenance intervals should be determined by the utility within the operating context of the protection system. There is no need for the standard to reflect the inherent difference between various protection system technologies as the utility would account for differences within their stated maintenance practices.

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
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Group Comments (Complete this page if comments are from a group.)

Group Name: Midwest Reliability Organization (MRO)

Lead Contact: Joe Knight

Contact Organization: MRO for Group (GRE - for lead contact)

Contact Segment: 10

Contact Telephone: 763.241.5633

Contact E-mail: jknight@grenergy.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Neal Balu	WPS	MRO	10
Terry Bilke	MISO	MRO	10
Robert Coish, Chair	MHEB	MRO	10
Carol Gerou	MP	MRO	10
Ken Goldsmith	ALT	MRO	10
Jim Haigh	WAPA	MRO	10
Tom Mielnik	MEC	MRO	10
Pam Oreschnick	XEL	MRO	10
Dave Rudolph	BEPC	MRO	10
Eric Ruskamp	LES	MRO	10
Mike Brytowski, Secretary	MRO	MRO	10
28 Additional Members	Not Named Above	MRO	10

*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.

Background Information

This SAR proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
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- PRC-011-0 — UVLS System Maintenance and Testing
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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☐ Yes

   ☒ No

   Comments: FERC Order 693 in both paragraph 1466 and in footnote 384, indicates that in some areas of the country, Load Serving Entities (LSE) and Transmission Operators (TOP) may individually or jointly own and operate a protection system. Thus, these additional entities should be subject to the resulting consolidated standard. The MRO believes that the following caveat should be added to the LSE where it is listed as an Applicable Entity, (where operation of the protection system can affect the Bulk Electric System).
   2. The MRO requests that the SDT review whether or not the Reliability Coordinator (RC) should be added to the list of Applicable Entities given their wide area view-for example, the RC may need to be involved in determining which protection systems below 100kV will affect the BES.

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance: None
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice: None

Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments:
   1. The MRO commends NERC and the SDT for taking steps to remove some of the redundancy that currently exists among many of the standards today. The consolidation of the protection system maintenance and testing standards is a good first step.
   2. The MRO requests that the following be considered during the initial drafting of the Requirements for this new protection and maintenance standard. A minimum set of evidence to be included in a maintenance and testing program should be established in the measures for R1.2.
   3. In the SPCTF Assessment of PRC-005-1, PRC-008-0, PRC-011-0, and PRC-017-0, the clarification for R2 states that documentation is available to its Regional Reliability Organization and NERC during audits or upon request within 30 days but paragraph 1545 of FERC Order 693 states "be routinely provided to the ERO or Regional Entity and not only when it is requested." The MRO believes that the FERC request would be satisfied if the standard were to state: "the applicable entities shall provide testing records to the Regional Entity on a periodic basis e.g. (annually).
   4. In the event that the SAR DT does not become the SDT, the MRO requests that these comments be forwarded on to the group that will do tha actual drafting of the Standard.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☒ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☐	1 — Transmission Owners
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	☒	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: NPCC, CP9 Reliabiity Standards Working Group

Lead Contact: Guy V. Zito

Contact Organization: Northeast Power Coordinating Council

Contact Segment: 10

Contact Telephone: 212-840-1070

Contact E-mail: gzito@npcc.org

Additional Member Name	Additional Member Organization	Region*	Segment*
Ralph Rufrano	New York Power Authority	NPCC	1
Kathleen Goodman	ISO-New England	NPCC	2
Greg Campoli	New York ISO	NPCC	2
Donald Nelson	MADPU	NPCC	9
David Kiguel	Hydro One Networks	NPCC	1
Ron Falsetti	The IESO	NPCC	2
Roger Champagne	TransEnergie HydroQuebec	NPCC	1
Murale Gopinathan	Northeast Utilities	NPCC	1
Michael Gildea	Constellation Energy	NPCC	6
Glen McCartney	Constellation Energy	NPCC	6
Al Adamson	New York State Reliability Council	NPCC	10
Michael Shiavone	National Grid US	NPCC	1
Guy V. Zito	NPCC	NPCC	10
Bill Shemley	ISO-New England	NPCC	2

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Background Information

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☒ No

   Comments: Each requirement needs to specifically address what protection systems need to comply with the standard - i.e. a generator not connected to the BPS with under frequency trip relay should only be subject to under frequency relay maintenance requirements

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance: None
   Comments: Certain unavoidable delays like the inability to schedule outages for reliability reasons or labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude, with the "appropriate approvals", needs to be provided for delays in the testing process.

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments: none that we know of

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: Due consideration should be given to potential difficulties in obtaining required outages. System reliability concerns may preclude performing maintenance at the intervals required. Certain unavoidable delays like the inability to schedule outages for reliability reasons, labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude needs to be provided, with "appropriate" approvals, for delays in the testing process.

   There is need to specify which types of relays will be covered by the new standard. The SAR Team needs to focus on better defining the Generator Protection Schemes ("GPS") that would be subject to this Standard – i.e., what subset of GPS are critical to bulk power system operation, as distinct from generator operation. For example, typically there is no single generating unit that would, if a contingency event occurs on that generating unit, result in significant adverse impacts outside of the local area in which the single generating unit is located. As a result, if these NERC Standards are to apply to all NERC-registered Generators, only a subset of the GPS need to be subjected to the maintenance testing intervals.

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NERC Region		**Registered Ballot Body Segment**
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Group Comments (Complete this page if comments are from a group.)

Group Name: Pepco Holdings, Inc. - Affiliates

Lead Contact: Richard Kafka

Contact Organization: Pepco Holdings, Inc.

Contact Segment: 1

Contact Telephone: 301-469-5274

Contact E-mail: rjkafka@pepcoholdings.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Carl Kinsley	Delmarva Power & Light	RFC	1
Alvin Depew	Potomac Electric Power Company	RFC	1
Evan Sage	Potomac Electric Power Company	RFC	1

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: This SAR will bring needed coherence to what are now several related standards.

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

Group Name: Public Service Commission of South Carolina

Lead Contact: Phil Riley

Contact Organization: Public Service Commission of South Carolina

Contact Segment: 9

Contact Telephone: 803-896-5154

Contact E-mail: philip.riley@psc.sc.gov

Additional Member Name	Additional Member Organization	Region*	Segment*
Mignon L. Clyburn	Public Service Commission of SC	SERC	9
Elizabeth B. "Lib" Fleming	Public Service Commission of SC	SERC	9
G. O'Neal Hamilton	Public Service Commission of SC	SERC	9
John E. "Butch" Howard	Public Service Commission of SC	SERC	9
Randy Mitchell	Public Service Commission of SC	SERC	9
C. Robert "Bob" Moseley	Public Service Commission of SC	SERC	9
David A. Wright	Public Service Commission of SC	SERC	9

*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.

Background Information

This SAR proposes to merge the requirements from the following standards into a single standard to reduce the costs of compliance while also improving efficiencies:

- PRC-005-1 — Transmission and Generation Protection System Maintenance and Testing
- PRC-008-0 — Underfrequency Load Shedding Equipment Maintenance Programs
- PRC-011-0 — UVLS System Maintenance and Testing
- PRC-017-0 — Special Protection System Maintenance and Testing

The SAR also proposes to address the FERC directives in Order 693 and to address a number of technical short comings identified by stakeholders and the System Protection and Control Task Force and to bring the standard into conformance with the "Standard Review Guidelines." The goal is to provide a set of requirements that will support reliable performance when responding to abnormal system conditions.

Please review the SAR and then answer the questions on the following page. Please e-mail your comments on this form to sarcomm@nerc.net with the subject "Protection Maintenance SAR" by **July 10, 2007**.

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments: N/A

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments: N/A

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: N/A

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

Please use this form to submit comments on the proposed SAR for Project 2007-17 — Protection System Maintenance and Testing. Comments must be submitted by **July 10, 2007**. You may submit the completed form by e-mail to sarcomm@nerc.net with the words "Protection Maintenance" in the subject line. If you have questions please contact Al Calafiore at al.calafiore@nerc.net or by telephone at 609-452-8060.

Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:	Mike Gentry	
Organization:	Salt River Project	
Telephone:	602-236-6408	
E-mail:	Mike.Gentry@srpnet.com	
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☒ **WECC** ☐ **NA – Not Applicable**	☒	1 — Transmission Owners
	☐	2 — RTOs and ISOs
	☐	3 — Load-serving Entities
	☐	4 — Transmission-dependent Utilities
	☐	5 — Electric Generators
	☐	6 — Electricity Brokers, Aggregators, and Marketers
	☐	7 — Large Electricity End Users
	☐	8 — Small Electricity End Users
	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name:

Lead Contact:

Contact Organization:

Contact Segment:

Contact Telephone:

Contact E-mail:

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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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: None.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☐	1 — Transmission Owners
	☐	2 — RTOs and ISOs
	☐	3 — Load-serving Entities
	☐	4 — Transmission-dependent Utilities
	☐	5 — Electric Generators
	☐	6 — Electricity Brokers, Aggregators, and Marketers
	☐	7 — Large Electricity End Users
	☐	8 — Small Electricity End Users
	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: SERC EC Protection & Control Subcommittee (PCS)

Lead Contact: Jay Farrington

Contact Organization: Alabama Electric Cooperative, Inc.

Contact Segment: 1

Contact Telephone: (334) 427-3225

Contact E-mail: jay.farrington@powersouth.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Robert Rauschenbach	Ameren	SERC	1
Charlie Fink	Entergy	SERC	1
Jammie Lee	Entergy	SERC	1
Tom Seeley	E.ON-U.S.	SERC	1
Steve Waldrep	Georgia Power Company	SERC	1
Hong-Ming Shuh	Georgia Transmission Corporation	SERC	1
Neal Jones	Georgia Transmission Corporation	SERC	1
Jerry Blackley	Progress Energy Carolinas	SERC	1
Pat Huntley	SERC Reliability Corp.	SERC	10
Marion Frick	South Carolina Electric & Gas Co.	SERC	1
Bridget Coffman	South Carolina Public Service Authority	SERC	1
George Pitts	Tennessee Valley Authority	SERC	1
Meyer Kao	Tennessee Valley Authority	SERC	1
Phil Winston	Georgia Power Company	SERC	1
Ernesto Paon	Municipal Electric Authority of Georgia	SERC	1

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Background Information

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Please review the SAR and then answer the questions on the following page. Please e-mail your comments on this form to sarcomm@nerc.net with the subject "Protection Maintenance SAR" by **July 10, 2007**.

You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments: Consolidation of the maintenance and testing standards is appropriate. Separate definitions for maintenance and testing are needed.

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance: none
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice: none
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: The SERC EC PCS supports the work of the NERC SPCTF in their assessments of these standards.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☐ **RFC** ☒ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☒	1 — Transmission Owners
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	☐	8 — Small Electricity End Users
	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: Southern Company Transmission

Lead Contact: Roman Carter

Contact Organization: Southern Company Transmission

Contact Segment: 1

Contact Telephone: 205.257.6027

Contact E-mail: jrcarter@southernco.com

Additional Member Name	Additional Member Organization	Region*	Segment*
Marc Butts	Southern Co. Transmission	SERC	1
JT Wood	Southern Co. Transmission	SERC	1
Jim Busbin	Southern Co. Transmission	SERC	1
Phil Winston	Georgia Power Co.	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.

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice:
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: In the SAR you state "The revised PRC-005 standard should address the issues raised in the FERC Order 693". With the exception of mentioning the consolidation of the standards into one standard, the SAR drafting team didn't provide readers with the exact language from FERC that would be useful to know with respect to PRC-005 in the directive below:

The Commission directs the ERO to develop a modification to PRC-005-1 through the Reliability Standards development process that includes a requirement that maintenance and testing of a protection system must be carried out within a maximum allowable interval that is appropriate to the type of the protection system and its impact on the reliability of the Bulk-Power System. We further direct the ERO to consider FirstEnergy's and ISO-NE's suggestion to combine PRC-005-1, PRC-008-0, PRC-011-0 and PRC-017-0 into a single Reliability Standard through the Reliability Standards development process.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

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Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
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	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: IRC Standards Review Committee

Lead Contact: Charles Yeung

Contact Organization: SPP

Contact Segment: 2

Contact Telephone: 832-724-6142

Contact E-mail: cyeung@spp.org

Additional Member Name	Additional Member Organization	Region*	Segment*
Jim Castle	NYISO	NPCC	2
Alicia Daugherty	PJM	RFC	2
Ron Falsetti	IESO	NPCC	2
Matt Goldberg	ISO-NE	NPCC	2
Brent Kingsford	CAISO	WECC	2
Anita Lee	AESO	WECC	2
Steve Myers	ERCOT	ERCOT	2
William Phillips	MISO	RFC+MRO+SERC	2

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Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments:

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments:

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance:
   Comments:

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice: none
   Comments:

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments:

   1. The SRC commends NERC, the SDT and the SPCTF for providing clarity and for efforts to reduce the costs of compliance.

2 In the Standard PRC-008-0, Generation Owners were not included in the applicable entities. Generation Owners may have underfrequency tripping devices for protection of their units. It would be appropriate to include these devices for maintenance and testing requirements also.

3. Further, there is need to specify which types of relays will be covered by the new standard. The SAR Team needs to focus on better defining the Generator Protection Schemes ("GPS") that are critical to bulk power system operation, as distinct from generator operation. For example, a single generating unit may experience contingency events that would not result in any significant adverse impacts outside the local area in which the single generating unit is located. As a result, there remains a need to subject those GPSs that are important to the Bulk Power System, such as generator underfrequency trip settings, to the maintenance testing intervals to be derived in these standards.

4. Certain unavoidable delays like the inability to schedule outages for reliability reasons, labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude needs to be provided for delays in the testing process.

5. However, the SAR team needs to also consider,as part of its scope, assurance that the asset owner has taken all appropriate steps to assure that required outages are appropriately planned and can be reasonably accommodated and approved by the TOP or RC.

Comment Form — First Draft of SAR for Project 2007-17 — Protection System Maintenance and Testing

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Individual Commenter Information **(Complete this page for comments from one organization or individual.)**		
Name:		
Organization:		
Telephone:		
E-mail:		
NERC Region		**Registered Ballot Body Segment**
☐ **ERCOT** ☐ **FRCC** ☐ **MRO** ☐ **NPCC** ☐ **RFC** ☐ **SERC** ☐ **SPP** ☐ **WECC** ☐ **NA – Not Applicable**	☐	1 — Transmission Owners
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	☐	8 — Small Electricity End Users
	☐	9 — Federal, State, Provincial Regulatory or other Government Entities
	☐	10 — Regional Reliability Organizations and Regional Entities

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

Group Name: Southwest Transmission Cooperative, Inc.

Lead Contact: E. William Riley

Contact Organization: Southwest Transmission Cooperative, Inc.

Contact Segment: 1

Contact Telephone: 520-586-5440

Contact E-mail: briley@swtransco.coop

Additional Member Name	Additional Member Organization	Region*	Segment*
Tom D. Spence, P.E	Southwest Transmission Coop., Inc.	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.

Background Information

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You do not have to answer all questions. Enter All Comments in Simple Text Format.

Insert a "check" mark in the appropriate boxes by double-clicking the gray areas.

1. Do you agree that there is a reliability-related need to improve the requirements in this set of standards?

   ☒ Yes

   ☐ No

   Comments: This SAR proposes to revise several standards to eliminate ambiguities and to provide requirements that are measurable. In addition, the SPCTF report "Assessment of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing; with implications for PRC-008-0, PRC-011-0, and PRC-017-0" indicates the need to differentiate between the different technologies used and insure the standard applies to all in the appropriate way (i.e. electromechanicals, microprocessor-based, solid-state). Southwest Transmission Cooperative, Inc. also recognizes this deficit in the existing standards.

2. Do you agree with the proposed scope of this SAR?

   ☒ Yes

   ☐ No

   Comments: Since most protection schemes are maintained and tested in a similar manner regardless of scheme type, we agree that combining the (4) PRC standards related to maintenance and testing of different types of systems into one standard will create a that is more streamlined and less burdensome standard with easily understood measurable compliance elements.

   The most exciting part of the proposed modifications is the inclusion of condition-based and performance-based maintenance and testing and not just time-based criteria. Presently Southwest Transmission Cooperative, Inc. uses this type of maintenance and testing criteria (maintenance data server) which is the current system protection industry technology.

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

   ☒ Yes

   ☐ No

   Comments:

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

   Regional Variance: N/A

Comments: Not aware of any Regional Variance requirements

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

   Business Practice: N/A
   Comments: Not aware of any Business Practice needs

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

   Comments: N/A

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on 1st Draft of Protection System Maintenance and Testing SAR (Project 2007-17)

The Protection System Maintenance and Testing SAR requesters thank all commenters who submitted comments on the first draft of SAR. This SAR was posted for a 30-day public comment period from June 11 through July 10, 2007. The requesters asked stakeholders to provide feedback on the standard through a special SAR Comment Form. There were 18 sets of comments, including comments from 85 different people from more than 50 companies representing 8 of the 10 Industry Segments as shown in the table on the following pages.

The SAR drafting team made no changes to the SAR based on stakeholder comments.

Based on the comments received, the drafting team is recommending that the Standards Committee authorize moving the SAR forward to the standard drafting stage of the standards development process.

In this "Consideration of Comments" document stakeholder comments have been organized so that it is easier to see the responses associated with each question. All comments received on the standards can be viewed in their original format at:

http://www.nerc.com/~filez/standards/Protection_System_Maintenance_Project_2007-17.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Director of Standards, Gerry Adamski, at 609-452-8060 or at gerry.adamski@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

[1] The appeals process is in the Reliability Standards Development Procedures: http://www.nerc.com/standards/newstandardsprocess.html.

The Industry Segments are:

1 — Transmission Owners
2 — RTOs, ISOs
3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities
10 – Regional Reliability Organizations, Regional Entities

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
1.	Anita Lee (G6)	AESO		✓								
2.	Jay Farrington (G2)	Alabama Electric Coop., Inc.	✓									
3.	Ken Goldsmith (G5)	ALT										✓
4.	Robert Rauschenbach (G2)	Ameren	✓									
5.	Thad Kness	American Electric Power (AEP)	✓				✓	✓				
6.	Dave Rudolph (G4)	BEPC										✓
7.	Dean Bender	Bonneville Power Administration (BPA)	✓		✓		✓	✓				
8.	Brent Kingsford (G6)	CAISO		✓								
9.	Alan Gale	City of Tallahassee (FRCC)					✓					
10.	Glen McCartney (G4)	Constellation Energy						✓				
11.	Michael Gildea (G4)	Constellation Energy						✓				
12.	Nancy C. Denton	Consumers Energy Company			✓	✓						
13.	Greg Rowland	Duke Energy										
14.	Tom Seeley (G2)	E. ON-U.S.	✓									
15.	Charlie Fink (G2)	Entergy	✓									
16.	Jammie Lee (G2)	Entergy	✓									
17.	Steve Myers (G6)	ERCOT		✓								
18.	Doug Hohlbaugh (G7)	FirstEnergy Corp. (FE)	✓		✓		✓	✓				
19.	Craig Boyle (G7)	Transm. Substa.	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
		Maintenance (FE)										
20.	Ken Ddresner (G7)	Fossil Generation (FE)					✓					
21.	Bill Duge (G7)	Nuclear Generation (FE)					✓					
22.	Dave Powell (G7)	Transm. Planning & Protection (FE)	✓									
23.	Jeff Mackauer(G7)	Transm. Planning & Protection (FE)	✓									
24.	Eric Senkowizc	FRCC		✓								
25.	Phil Winston (G3)	Georgia Power Company			✓							
26.	Steve Waldrep (G2)	Georgia Power Company	✓									
27.	Phil Winston (G2)	Georgia Power Company	✓									
28.	Hong-Ming Shuh (G2)	Georgia Transmission Corp.	✓									
29.	Neal Jones (G2)	Georgia Transmission Corp.	✓									
30.	David Kiguel (G4)	Hydro One Networks	✓									
31.	Ron Falsetti (I) (G6)	IESO		✓								
32.	Matt Goldberg (G6)	ISO- New England		✓								
33.	Kathleen Goodman (G4)	ISO-New England		✓								
34.	William Shemley (G4)	ISO-New England		✓								
35.	Eric Ruskamp (G4)	LES										✓
36.	Donald Nelson (G4)	MADPC									✓	
37.	Tony Clark	Manitoba Hydro	✓		✓		✓	✓				
38.	Tom Mielnik (G4)	MEC										✓
39.	Robert Coish (G5)	MHEB										✓
40.	Joe Knight (G5)	Midwest Reliability Organization										✓
41.	Mike Brytowski (G4)	Midwest Reliability Organization										✓
42.	Terry Bilke (G5)	MISO										✓
43.	William Phillips (G6)	MISO		✓								
44.	Carol Gerou (G5)	Minnesota Power (MP)										✓
45.	Ernesto Paon (G2)	Municipal Electric Authority of GA	✓									
46.	Michael Shiavone (G4)	National Grid US	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
47.	Greg Campoli (G4)	New York ISO		✓								
48.	Ralph Rufrano (G4)	New York Power Authority	✓									
49.	Murale Gopinathan (G4)	Northeast Utilities	✓									
50.	Guy V. Zito (G4)	NPCC										✓
51.	Al Adamson (G4)	NY State Reliability Council										✓
52.	Jim Castle (G6)	NYISO		✓								
53.	Richard Kafka (G8)	Pepco Holdings, Inc.										
54.	Alicia Daugherty (G6)	PJM		✓								
55.	Jerry Blackley (G2)	Progress Energy Carolinas	✓									
56.	Phil Riley (G1)	PSC of South Carolina									✓	
57.	Mignon L. Clyburn (G1)	PSC of South Carolina									✓	
58.	Elizabeth B. Fleming (G1)	PSC of South Carolina									✓	
59.	G. O'Neal Hamilton (G1)	PSC of South Carolina									✓	
60.	John E. Howard (G1)	PSC of South Carolina									✓	
61.	Randy Mitchell (G1)	PSC of South Carolina									✓	
62.	C. Robert Moseley (G1)	PSC of South Carolina									✓	
63.	David A. Wright (G1)	PSC of South Carolina									✓	
64.	Mike Gentry	Salt River Project (SRP)	✓									
65.	Bridget Coffman (G2)	SC Public Service Authority	✓									
66.	Pat Huntley (G2)	SERC Reliability Corp.										✓
67.	Roman Carter (G3)	So. Company Transmission	✓									
68.	Marc Butts (G3)	So. Company Transmission	✓									
69.	JT Wood (G3)	So. Company Transmission	✓									
70.	Jim Busbin (G3)	So. Company Transmission	✓									
71.	Marion Frick (G2)	South Carolina Electric & Gas Co.	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
72.	Charles Yeung (G6)	Southwest Power Pool		✓								
73.	E. William Riley	Southwest Transmission Co., Inc.	✓									
74.	Tom D. Spence	Southwest Transmission Co., Inc.	✓									
75.	George Pitts (G2)	Tennessee Valley Authority	✓									
76.	Meyer Kao (G2)	Tennessee Valley Authority	✓									
77.	Ron Falsetti (G4) (G6)	The IESO		✓								
78.	Roger Champagne (G4)(I)	TransÉnergie Hydro-Québec (HQTE)	✓									
79.	Jim Haigh (G4)	WAPA										✓
80.	Neal Balu (G5)	WPS										✓
81.	Pam Oreschnick (G4)	XEL										✓
82.	Carl Kinsley (G8)	Delmarva Power & Light	✓									
83.	Alvin Depew (G8)	Potomac Electric Power Company	✓									
84.	Evan Sage (G8)	Potomac Electric Power Company	✓									

I – Indicates that individual comments were submitted in addition to comments submitted as part of a group
G1 – Public Service Commission of South Carolina (PSC SC)
G2 – SERC EC Protection & Control Subcommittee (SERC EC PCS)
G3 – Southern Company Transmission
G4 – NPCC CP9 Reliability Standards Working Group (NPCC CP9 RSWG)
G5 – MRO Members (MRO)
G6 – IRC Standards Review Committee (IRC)
G7 – FirstEnergy Corp. (FE)
G8 – Pepco Holdings, Inc.

Index to Questions, Comments, and Responses

1. Do you agree that there is a reliability-related need to improve the requirements in this standard?

Summary Consideration: Most commentators indicated they do believe there is a reliability-related need to improve the requirements in this set of standards.

Question #1			
Commenter	**Yes**	**No**	**Comment**
AEP		☑	AEP has not had an event, due to deficiencies in protection maintenance, in it's long existence that jeopardized the reliability or availability of Bulk Power transfers. Simply combining multiple standards into one, does nothing for improving reliability.
Response: The proposed changes will improve clarity which should benefit reliability. While AEP may have an excellent record of maintenance, the existing standards are quite vague and allow an entity that performs maintenance once every 100 years to be fully compliant.			
Manitoba Hydro		☑	There is a need to better define and explain the terms "maintenance" and "testing" as they relate to this standard. Also a tighter definition as to which systems are considered to affect the BES is required. The need to improve the standard is driven by the administration of the standard rather than reliability.
Response: As envisioned, the SDT will work with stake holders to define the terms 'maintenance' and 'testing.' The SAR DT disagrees that the standard changes are driven by "administration". The existing requirements are vague enough to allow an entity to perform maintenance once every 100 years and still be compliant.			
SWTC	☑		This SAR proposes to revise several standards to eliminate ambiguities and to provide requirements that are measurable. In addition, the SPCTF report "Assessment of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing; with implications for PRC-008-0, PRC-011-0, and PRC-017-0" indicates the need to differentiate between the different technologies used and insure the standard applies to all in the appropriate way (i.e. electro-mechanicals, microprocessor-based, solid-state). Southwest Transmission Cooperative, Inc. also recognizes this deficit in the existing standards.
Response: The SAR DT agrees and appreciates your support.			
SERC EC PCS	☑		Consolidation of the maintenance and testing standards is appropriate. Separate definitions for maintenance and testing are needed.
Response: The SAR DT agrees and appreciates your support.			
FRCC	☑		Centralizing System Protection equipment maintenance and testing requirements in a single standard will add clarity, minimize synchronization issues across standards, help provide consistent terminology and improve understanding of system protection standards.
Response: The SAR DT agrees and appreciates your support.			

Question #1			
Commenter	**Yes**	**No**	**Comment**
PSC SC	☑		
BPA	☑		
Consumers Energy	☑		
IESO	☑		
SRP	☑		
SOCO Transmission	☑		
NPCC CP9 RSWG	☑		
MRO	☑		
IRC	☑		
FirstEnergy	☑		
HQT	☑		
Pepco Holdings	☑		
Duke Energy	☑		

2. Do you agree with the proposed scope of this SAR?

Summary Consideration: Some entities objected to the use of 'maximum allowable intervals,' however, FERC has ordered that maximum allowable intervals be developed. No changes to the SAR were made in response to these comments.

Question #2			
Commenter	**Yes**	**No**	**Comment**
AEP		☑	On the surface, the premise of reducing costs and improving efficiencies by combining multiple standards sounds excellent. Having to only keep up with one standard instead of four will not generate significant savings due to the fact that the maintenance will still have to be performed. But what lies hidden, is the fact that prescribed maximum allowable maintenance intervals will result from the revisions. They may require more frequent testing to be performed. Is there evidence that increasing the interval frequency results in a measurable increase in reliability and availability? Development of prescribed maximum intervals that are vastly different than the utility's existing practices may actual increase their O&M costs and reduce efficiencies. The function of the protective system needs to be taken into account. The purpose of the line protection is very different than the purpose of UFLS/UVLS and SPS's. The UFLS program is there as the last line of defense against a decaying system after all other measures have failed. The combination of all the different relaying systems places them on equal ground. Shouldn't the reliability and dependability for one be more important than the others?
Response: In order to develop a measurable standard and conform to the direction from FERC regarding allowable maintenance intervals, the SDT, working with stakeholders, will develop requirements for maximum allowable maintenance intervals for protection systems. Combining these 4 standards into 1 does not preclude the SDT from developing different criteria for different types of protection systems. Your concerns regarding the different purposes of protection systems and your question regarding varying importance of different protection systems will be forwarded to the SDT.			
Manitoba Hydro		☑	We disagree that there is a need to change the standard to include more specificity for maintenance and test procedures. We also disagree with mandating minimum maintenance intervals for protection system equipment.
Response: FERC has directed NERC as the ERO to specify maximum allowable maintenance intervals.			
Duke Energy		☑	Combining PRC-005, 008, 011 and 017 into one new standard does not seem to be the best approach. Duke Energy does not have UVLS systems or Special Protection Systems. Furthermore, Duke Energy's Underfrequency Load Shedding system is on the transmission system in the Carolinas, but on the distribution system in the Midwest.

Question #2			
Commenter	**Yes**	**No**	**Comment**
			Combining these standards would likely create confusion and compliance issues for us and others as well. Also, combining the standards is unlikely to result in simplification, as different requirements associated with the different protection systems could have different Violation Risk Factors and levels of non-compliance, which would necessitate keeping them separate in the combined standard, which would defeat the purpose of combining them in the first place.
Response: Combining these 4 standards into 1 does not preclude the SDT from developing different criteria for different types of protection systems (concerns about different voltage levels remain regardless if there is one standard or more than one).			
SWTC	☑		Since most protection schemes are maintained and tested in a similar manner regardless of scheme type, we agree that combining the (4) PRC standards related to maintenance and testing of different types of systems into one standard will create a that is more streamlined and less burdensome standard with easily understood measurable compliance elements. The most exciting part of the proposed modifications is the inclusion of condition-based and performance-based maintenance and testing and not just time-based criteria. Presently Southwest Transmission Cooperative, Inc. uses this type of maintenance and testing criteria (maintenance data server) which is the current system protection industry technology.
Response: Thank you for your support.			
FirstEnergy	☑		Bullet #5 of the "Detailed Description" on page SAR-2 indicates the following: "Applicable to all four standards — The requirements of the existing standards, as stated, support time-based maintenance and testing, and should be expanded to include condition-based and performance-based maintenance and testing. The requirements for maintenance and testing procedures need to have more specificity to insure that the stated intent of the standards is met to support review by the compliance monitor." FE supports the scope of the SAR to consider adding the ability for condition-based and performance-based testing, as suggested by the System Protection and Control Task Force. Additionally, the SDT should consider the need to perform some level of preventative maintenance on a periodic basis at an established maximum interval length, that would vary per the equipment being maintained. The interval established would be based on established guidelines from vendors, EPRI, industry experts, etc.

Question #2			
Commenter	**Yes**	**No**	**Comment**
Response: Thank you- The SDT will develop maximum allowable maintenance intervals for protection systems, working with stakeholders.			
FRCC	☑	☑	Use of subject matter experts (NERC SPCTF) along with the NERC Planning Committee review of the assessment is an effective and efficient way to supplement project SARs and provides critical input at the front-end of the standards process. Attachment A is described as the SPCTF assessment, but attachment A to the SAR is the SPCTF roster. The assessment referenced in the scope of the SAR should include "Draft 1.0" if the full assessment is not included as part of the SAR.
Response: The attachments and supporting material references will be posted.			
PSC SC	☑		
SERC EC PCS	☑		
BPA	☑		
Consumers Energy	☑		
IESO	☑		
SRP	☑		
SOCO Transmission	☑		
NPCC CP9 RSWG	☑		
MRO	☑		
IRC	☑		
HQT	☑		
Pepco Holdings	☑		

3. Do you agree with the applicability of the proposed SAR (Transmission Owners, Generator Owners and Distribution Providers - Distribution Providers may own the devices that must be tested and maintained)?

Summary Consideration: Based on comments received no changes were made to the SAR

Question #3			
Commenter	**Yes**	**No**	**Comment**
FRCC			This question may be better addressed as the standards are integrated.
Response: The SAR DT is obligated to address the applicability,			
MRO		☑	FERC Order 693 in both paragraph 1466 and in footnote 384, indicates that in some areas of the country, Load Serving Entities (LSE) and Transmission Operators (TOP) may individually or jointly own and operate a protection system. Thus, these additional entities should be subject to the resulting consolidated standard. The MRO believes that the following caveat should be added to the LSE where it is listed as an Applicable Entity, (where operation of the protection system can affect the Bulk Electric System). 2. The MRO requests that the SDT review whether or not the Reliability Coordinator (RC) should be added to the list of Applicable Entities given their wide area view-for example, the RC may need to be involved in determining which protection systems below 100kV will affect the BES.
Response: FERC Order 693 in both paragraph 1466 and in footnote 384 reiterates IESO-NE comments on the NOPPR. The FERC directive was to consider this comment. According to the NERC Functional Model, Load-serving Entities, Transmission Operators and Reliability Coordinators are not owners of protection systems – and the entity responsible for maintenance is the facility owner.			
NPCC CP9 RSWG HQT	☑	☑	Each requirement needs to specifically address what protection systems need to comply with the standard - i.e. a generator not connected to the BPS with under frequency trip relay should only be subject to under frequency relay maintenance requirements.
Response: Your comment will be referred to the SDT for consideration when convened.			
FirstEnergy	☑		The inclusion of the Distribution Provider is generally needed for UFLS and UVLS relays. The confusion that previously existed in PRC-005 by including the DP entity should be mitigated by the proposed consolidation of the four maintenance standards.
Response: Thank you for your comment.			
PSC SC	☑		
SERC EC PCS	☑		
AEP	☑		
BPA	☑		

Question #3			
Commenter	**Yes**	**No**	**Comment**
Consumers Energy	☑		
IESO	☑		
SRP	☑		
SOCO Transmission	☑		
SWTC	☑		
IRC	☑		
Pepco Holdings	☑		
Duke Energy	☑		

4. If you know of a Regional Variance that should be developed as part of this SAR, please identify that for us. If not, please explain in the comment area.

Summary Consideration: No regional variances were identified by the commentators

Question #4		
Commenter	**Regional Variance**	**Comment**
NPCC CP9 RSWG	None	Certain unavoidable delays like the inability to schedule outages for reliability reasons or labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude, with the "appropriate approvals", needs to be provided for delays in the testing process.
Response: This is a compliance issue not a regional variance – The compliance enforcement program does give the compliance monitor latitude to consider extenuating circumstances.		
PSC SC	N/A	
SERC EC PCS	None	
AEP	None	
BPA	No known regional variance.	
Consumers Energy	N/A	
SWTC	N/A	Not aware of any Regional Variance requirements.
MRO	None	
FirstEnergy		Not aware of any.
HQT	None	

5. If you are aware of a Business Practice that needs to be developed to support the proposed SAR, please identify that for us.

Summary Consideration: No needs for development of Business Practices were identified by the commentators.

Question #5		
Commenter	**Business Practice**	**Comment**
AEP	Possibly	AEP and other utilities, with many years of experience serving customers and supporting the electric grid, have voluntarily integrated maintenance and testing programs into the core of their work practices and processes. AEP fully supports improvements if they truly foster reliability and availability benefits to bulk power transfers. More Standards, Requirements and Business Practices are not always better. If Standards create burdens on a utility's physical resources and budgets, then some mechanism must be available to allow for the needed changes.
Response: Please monitor the work of the SDT and advise the team if added burdens are created by any of the proposed requirement and advise the team of the need for any business practice or other mechanism necessary to support the proposed requirements.		
PSC SC	N/A	
SERC EC PCS	None	
Consumers Energy	N/A	
SWTC	N/A	Not aware of any Business Practice needs.
NPCC CP9 RSWG	None that we know of.	
MRO	None	
IRC	None	
FirstEnergy		Not aware of any.
HQT		None that we know of.

6. If you have any other comments on this SAR that you haven't provided above, please provide them here.

Question #6	
Commenter	**Comment**
SERC EC PCS	The SERC EC PCS supports the work of the NERC SPCTF in their assessments of these standards.
Response: Thank you for your support	
AEP	The standard should not use the term Bulk Electric System, but should instead specify a voltage threshold for impacts to bulk system transfers - specifically; 'Facilities operated 200 kV and above and Regionally-defined, Operationally Significant facilities operated greater than 100 kV, but less than 199 kV'. The term 'affects' also needs to be clarified. Inclusion of all facilities greater than 100 kV does not benefit the reliability of national bulk power transfers. For example, the loss or misoperation of a 138 kV line serving a localized load center would not be detrimental to bulk power transfers multiple busses away.
Response: Your comment will be referred to the drafting team when convened for consideration when drafting the standard.	
BPA	In the "Detailed Description" section of the SAR, it states: "Part of the stated purpose in PRC-017 is: "To ensure that maintenance and testing programs are developed and misoperations are analyzed and corrected." The phrase "and misoperations are analyzed and corrected" is not clearly appropriate in a maintenance and testing standard. That is the purpose is more appropriate in PRC-003 and PRC-004, which relate to the analysis and mitigation of protection system misoperations. Analysis of correct operations or misoperations may be an integral part of condition-based maintenance processes, but need not be mandated in a maintenance standard." The analysis of SPS misoperations is handled in PRC-016 (SPS Misoperations) and PRC 012 (SPS review Procedure) not in PRC-003 or PRC-004. Therefore, if the phrase is removed from PRC-017, it does not need to be added to PRC-003 or PRC-004.
Response: We agree. Please see the purpose statement as stated in the SAR.	
SOCO Transmission	In the SAR you state "The revised PRC-005 standard should address the issues raised in the FERC Order 693". With the exception of mentioning the consolidation of the standards into one standard, the SAR drafting team didn't provide readers with the exact language from FERC that would be useful to know with respect to PRC-005 in the directive below: The Commission directs the ERO to develop a modification to PRC-005-1 through the Reliability Standards development process that includes a requirement that maintenance and testing of a protection system must be carried out within a maximum allowable interval that is appropriate to the type of the protection system and its impact on the reliability of the Bulk-Power System. We further direct the ERO to consider FirstEnergy's and ISO-NE's suggestion to combine PRC-005-1, PRC-008-0,

Question #6	
Commenter	**Comment**
	PRC-011-0 and PRC-017-0 into a single Reliability Standard through the Reliability Standards development process.
Response: The SAR DT Agrees – the SAR DT will make sure that all appropriate documents are included in its next posting of the SAR.	
MRO	1. The MRO commends NERC and the SDT for taking steps to remove some of the redundancy that currently exists among many of the standards today. The consolidation of the protection system maintenance and testing standards is a good first step. 2. The MRO requests that the following be considered during the initial drafting of the Requirements for this new protection and maintenance standard. A minimum set of evidence to be included in a maintenance and testing program should be established in the measures for R1.2. 3. In the SPCTF Assessment of PRC-005-1, PRC-008-0, PRC-011-0, and PRC-017-0, the clarification for R2 states that documentation is available to its Regional Reliability Organization and NERC during audits or upon request within 30 days but paragraph 1545 of FERC Order 693 states "be routinely provided to the ERO or Regional Entity and not only when it is requested." The MRO believes that the FERC request would be satisfied if the standard were to state: "the applicable entities shall provide testing records to the Regional Entity on a periodic basis e.g. (annually). 4. In the event that the SAR DT does not become the SDT, the MRO requests that these comments be forwarded on to the group that will do tha actual drafting of the Standard.
Response: The SAR DT will forward your comments to the SDT for consideration as required by the process	
IRC IESO	1. The SRC (IESO) commends NERC, the SDT and the SPCTF for providing clarity and for efforts to reduce the costs of compliance. 2 In the Standard PRC-008-0, Generation Owners were not included in the applicable entities. Generation Owners may have underfrequency tripping devices for protection of their units. It would be appropriate to include these devices for maintenance and testing requirements also. 3. Further, there is need to specify which types of relays will be covered by the new standard. The SAR Team needs to focus on better defining the Generator Protection Schemes ("GPS") that are critical to bulk power system operation, as distinct from generator operation. For example, a single generating unit may experience contingency events that would not result in any significant adverse impacts outside the local area in which the single generating unit is located. As a result, there remains a need to subject those GPSs that are important to the Bulk Power System, such as generator underfrequency trip settings, to the maintenance testing intervals to be derived in these standards. 4. Certain unavoidable delays like the inability to schedule outages for reliability reasons, labor

Question #6	
Commenter	**Comment**
	disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude needs to be provided for delays in the testing process. 5. However, the SAR team needs to also consider, as part of its scope, assurance that the asset owner has taken all appropriate steps to assure that required outages are appropriately planned and can be reasonably accommodated and approved by the TOP or RC.
Response: 1.Thank you **2.** Generator owners are included in the SAR **3.** This comment will be forwarded to the SDT **4.** The compliance enforcement program does give the compliance monitor latitude to consider extenuating circumstances. **5.** There are other standards that require coordination of comments	
FRCC	There are many standards being addressed (Disturbance Monitoring, System Protection Coordination, Reliability Coordination, along with Regional standard developments). As these standards are integrated into PRC-005, the existing and new terminology should be consistently applied in all system protection standards (with respect to defined terms). Where terms are undefined or being revised, the drafting team should carefully consider the terms used to ensure coordination of revised or new definitions with other Reliability standards or flag conflicts within the implementation plan.
Response: Thank you for your comment, your observation will be forwarded to the SDT for consideration.	
NPCC CP9 RSWG HQT	Due consideration should be given to potential difficulties in obtaining required outages. System reliability concerns may preclude performing maintenance at the intervals required. Certain unavoidable delays like the inability to schedule outages for reliability reasons, labor disputes, or force-majeure conditions could affect testing period requirements. These factors should be considered and certain latitude needs to be provided, with "appropriate" approvals, for delays in the testing process. There is need to specify which types of relays will be covered by the new standard. The SAR Team needs to focus on better defining the Generator Protection Schemes ("GPS") that would be subject to this Standard – i.e., what subset of GPS are critical to bulk power system operation, as distinct from generator operation. For example, typically there is no single generating unit that would, if a contingency event occurs on that generating unit, result in significant adverse impacts outside of the local area in which the single generating unit is located. As a result, if these NERC Standards are to apply to all NERC-registered Generators, only a subset of the GPS need to be subjected to the maintenance testing intervals.
Response: 1. The compliance enforcement program does give the compliance monitor latitude to consider extenuating circumstances.	

Question #6	
Commenter	**Comment**
2 Your second comment will be forwarded to the SDT for consideration	
Manitoba Hydro	Manitoba Hydro takes exception to the prescriptive nature of the proposed changes to the maintenance procedures and maintenance intervals. The type of maintenance performed and the minimum maintenance intervals should be determined by the utility within the operating context of the protection system. There is no need for the standard to reflect the inherent difference between various protection system technologies as the utility would account for differences within their stated maintenance practices.
Response: The proposed changes will improve clarity which should benefit reliability. While Manitoba Hydro may have an excellent record of maintenance, the existing standards are quite vague and allow an entity that performs maintenance once every 100 years to be fully compliant.	
Pepco Holdings	This SAR will bring needed coherence to what are now several related standards.
Response: Thank you	
SRP	None.
PSC SC	N/A
Consumers Energy	None.
SWTC	N/A
FirstEnergy	None.

The new proposed definition of Protection System reads as follows:

Protection System:

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply, and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

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Protection System Definition

Current Approved Definition:

Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.

The drafting team initially proposed changes to the definition as shown below:

Protective relays, associated communication systems necessary for correct operation of protective devices, voltage and current sensing inputs to protective relays ~~devices~~, station DC supply ~~batteries~~, and DC control circuitry from the station DC supply through the trip coil(s) of the circuit breakers or other interrupting devices.

Based on stakeholder comments, the drafting team made minor changes to the proposed definition as shown below.

Protective relays, ~~associated~~ communication systems necessary for correct operation of protective ~~devices~~functions, voltage and current sensing inputs to protective relays and associated circuitry from the voltage and current sensing devices, station dc supply, and ~~DC~~ control circuitry associated with protective functions from the station dc supply through the trip coil(s) of the circuit breakers or other interrupting devices.

The proposed definition of Protection System reads as follows:

Protective relays which respond to electrical quantities, communication systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays ~~and associated circuitry from the voltage and current sensing devices~~, station dc supply, and control circuitry associated with protective functions ~~from the station dc supply~~ through the trip coil(s) of the circuit breakers or other interrupting devices.

The new proposed definition of Protection System reads as follows:

Protection System:

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply, and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

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Implementation Plan for the Revised Definition of Protection System

Prerequisite Approvals or Activities:
The implementation of the revised definition is not dependent upon any other activity.

Recommended Modifications to Already Approved Standards
The non-capitalized version of the term, "protection system" is used in the following approved standards:

- NUC-001-2 — Nuclear Plant Interface Coordination
- PER-005-1 — System Personnel Training
- PRC-001-1 — System Protection Coordination

The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.

Proposed Effective Date:
Each responsible entity (Distribution Provider that owns a transmission Protection System, Transmission Owner, and Generator Owner) shall modify its protection system maintenance and testing program description and basis document(s) (required in Requirement R1 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) as necessary to reflect the modified definition of 'Protection System' by the first day of the first calendar quarter twelve months following regulatory approvals and implement any additional maintenance and testing (required in Requirement R2 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) by the end of the first complete maintenance and testing cycle described in the entity's program description and basis document(s) following establishment of the program changes resulting from the revised definition.

The original definition of "Protection System" shall be retired at the same time the revised definition becomes effective.

Implementation Plan for the Revised Definition of Protection System

Prerequisite Approvals or Activities:

The implementation of the revised definition is not dependent upon any other activity.

Recommended Modifications to Already Approved Standards

The non-capitalized version of the term, "protection system" is used in the following approved standards:

- NUC-001-2 – Nuclear Plant Interface Coordination
- PER-005-1 – System Personnel Training
- PRC-001-1 – System Protection Coordination

The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.

Proposed Effective Date:

Each responsible entity (Distribution Provider that owns a transmission Protection System, Transmission Owner, and Generator Owner) shall modify its protection system maintenance and testing program description and basis document(s) (required in Requirement R1 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) as necessary to reflect the modified definition of 'Protection System' by the ~~end~~ first day of the first calendar quarter ~~six~~ twelve months following regulatory approvals and implement any additional maintenance and testing (required in Requirement R2 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) by the end of the first complete maintenance and testing cycle described in the entity's program description and basis document(s) following establishment of the program changes resulting from the revised definition.

The original definition of "Protection System" shall be retired at the same time the revised definition becomes effective.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Standards Announcement

Second Ballot Window Open
July 23–August 2, 2010

Now available at: https://standards.nerc.net/CurrentBallots.aspx

Project 2007-17: Protection System Maintenance and Testing

A second ballot window for the definition of "Protection System" is now open **until 8 p.m. Eastern on August 2, 2010**.

Instructions

Members of the ballot pool associated with this project may log in and submit their votes from the following page: https://standards.nerc.net/CurrentBallots.aspx

Recirculation Ballot Process

The Standards Committee encourages all members of the ballot pool to review the consideration of comments submitted with the initial ballots and those submitted through the formal comment period. In this second ballot, votes are counted by exception only — if a ballot pool member does not submit a revision to that member's original vote, the vote remains the same as in the first ballot. Members of the ballot pool may:

- Reconsider and change their vote from the first ballot.
- Vote in the second ballot even if they did not vote on the first ballot.
- Take no action if they do not want to change their original vote.

Next Steps

Voting results will be posted and announced after the ballot window closes.

Project Background

When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

Project page:
http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

116-390 Village Blvd.
Princeton, NJ 08540
609.452.8060 | www.nerc.com

Special Notes:
On March 18, 2010, FERC issued several orders and notices of proposed rulemakings pertaining to standards development activities and processes, suggesting a lack of progress in responding to directives from Order 693 as well in the timeliness of standards development in general. At the May 2010 NERC Board meeting, Gerry Cauley, NERC's President, also expressed these concerns, indicating that the resolution to these concerns is one of NERC's top priorities in the near term. As a result, the Standards Committee has authorized deviations from the normal standards development process for the Protection System Maintenance and Testing project, as well as other projects, to demonstrate that the NERC enterprise is responsive to FERC directives, and is making progress in developing standards.

The Standards Committee approved the following deviations from the standards development process for the definition of Protection System:

- The proposed changes to the definition will be posted for a 35-day comment period (rather than 45-day comment period). The ballot pool will be formed during the first 21 days of the 35-day comment period;
- The initial ballot will be conducted during the last 10 days of the 35-day comment period; and
- The drafting team may make modifications between the initial and successive ballots based on stakeholder comments to improve the overall quality of the standard and definition.

Standards Development Process

The Reliability Standards Development Procedure contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

For more information or assistance, please contact Lauren Koller at Lauren.Koller@nerc.net

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Standards Announcement
Final Ballot Results

Now available at: https://standards.nerc.net/Ballots.aspx

Project 2007-17: Protection System Maintenance and Testing
The second ballot for the definition of "Protection System" ended on August 2, 2010.

Ballot Results
Voting statistics are listed below, and the Ballot Results Web page provides a link to the detailed results:

Quorum: 94.70%
Approval: 58.61%

Next Steps
The drafting team will review and respond to the comments received, and will determine whether to make additional changes to the definition or its implementation plan, based on those comments. Should the team decide to make revisions the revised item(s) will be posted for a 30-day comment period with another ballot conducted during the last ten days of that comment period.

Project Background
When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

More information is available on the project page:
http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.htmlb

Standards Development Process
For this project, the Standards Committee authorized using the standard development process in the *Standard Processes Manual*. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

Ballot Criteria (from *Standard Processes Manual*)
Approval requires both a (1) quorum, which is established by at least 75% of the members of the ballot pool for submitting either an affirmative vote, a negative vote, or an abstention, and (2) A two-thirds majority of the weighted segment votes cast must be affirmative; the number of votes cast is the sum of affirmative and negative votes, excluding abstentions and nonresponses. If there are no negative votes with reasons from the first ballot, the results of the first ballot shall stand. If, however, one or more members submit negative votes with reasons, at least one more ballot must be conducted. If the drafting team makes no substantive changes following the initial ballot, then a "recirculation" ballot is conducted – however if the drafting team makes substantive changes, the revised standard (or definition) must be posted for a 30-day comment period, with a successive ballot conducted during the last 10 days of that comment period. If the drafting team does not make substantive changes following the successive ballot, then the standard moves forward to a recirculation ballot.

For more information or assistance, please contact Courtney Camburn at Courtney.camburn@nerc.net

Ballot Results

Ballot Name:	Project 2007-17 Protection System Maintenance (Protection System definition)_rc
Ballot Period:	7/23/2010 - 8/2/2010
Ballot Type:	recirculation
Total # Votes:	304
Total Ballot Pool:	321
Quorum:	**94.70 % The Quorum has been reached**
Weighted Segment Vote:	58.61 %
Ballot Results:	**The Standard has NOT Passed**

Summary of Ballot Results

Segment	Ballot Pool	Segment Weight	Affirmative # Votes	Affirmative Fraction	Negative # Votes	Negative Fraction	Abstain # Votes	No Vote
1 - Segment 1.	89	1	50	0.617	31	0.383	3	5
2 - Segment 2.	9	0.4	3	0.3	1	0.1	4	1
3 - Segment 3.	71	1	43	0.662	22	0.338	4	2
4 - Segment 4.	24	1	11	0.524	10	0.476	0	3
5 - Segment 5.	67	1	31	0.517	29	0.483	3	4
6 - Segment 6.	37	1	21	0.6	14	0.4	1	1
7 - Segment 7.	0	0	0	0	0	0	0	0
8 - Segment 8.	11	0.8	4	0.4	4	0.4	2	1
9 - Segment 9.	6	0.5	4	0.4	1	0.1	1	0
10 - Segment 10.	7	0.5	2	0.2	3	0.3	2	0
Totals	**321**	**7.2**	**169**	**4.22**	**115**	**2.98**	**20**	**17**

Individual Ballot Pool Results

Segment	Organization	Member	Ballot	Comments
1	Allegheny Power	Rodney Phillips	Affirmative	
1	Ameren Services	Kirit S. Shah	Negative	View
1	American Electric Power	Paul B. Johnson	Negative	View
1	American Transmission Company, LLC	Jason Shaver	Affirmative	
1	Arizona Public Service Co.	Robert D Smith	Negative	View
1	Associated Electric Cooperative, Inc.	John Bussman		
1	Avista Corp.	Scott Kinney	Negative	View

1	Baltimore Gas & Electric Company	John J. Moraski	Negative	View
1	BC Transmission Corporation	Gordon Rawlings	Affirmative	View
1	Beaches Energy Services	Joseph S. Stonecipher	Negative	View
1	Black Hills Corp	Eric Egge		
1	Bonneville Power Administration	Donald S. Watkins	Affirmative	
1	CenterPoint Energy	Paul Rocha	Negative	View
1	Central Maine Power Company	Brian Conroy	Affirmative	
1	City of Vero Beach	Randall McCamish	Negative	
1	City Utilities of Springfield, Missouri	Jeff Knottek	Negative	
1	Clark Public Utilities	Jack Stamper	Negative	View
1	Cleco Power LLC	Danny McDaniel	Affirmative	
1	Colorado Springs Utilities	Paul Morland		
1	Commonwealth Edison Co.	Daniel Brotzman	Affirmative	View
1	Consolidated Edison Co. of New York	Christopher L de Graffenried	Negative	View
1	Dairyland Power Coop.	Robert W. Roddy	Negative	View
1	Dayton Power & Light Co.	Hertzel Shamash	Affirmative	
1	Deseret Power	James Tucker	Affirmative	
1	Dominion Virginia Power	John K Loftis	Affirmative	
1	Duke Energy Carolina	Douglas E. Hils	Affirmative	
1	East Kentucky Power Coop.	George S. Carruba	Affirmative	
1	Empire District Electric Co.	Ralph Frederick Meyer	Negative	View
1	Entergy Corporation	George R. Bartlett	Affirmative	
1	FirstEnergy Energy Delivery	Robert Martinko	Affirmative	View
1	Florida Keys Electric Cooperative Assoc.	Dennis Minton	Negative	
1	Gainesville Regional Utilities	Luther E. Fair	Affirmative	
1	GDS Associates, Inc.	Claudiu Cadar	Negative	View
1	Georgia Transmission Corporation	Harold Taylor, II	Affirmative	
1	Great River Energy	Gordon Pietsch	Affirmative	View
1	Hydro One Networks, Inc.	Ajay Garg	Affirmative	View
1	Idaho Power Company	Ronald D. Schellberg	Affirmative	
1	International Transmission Company Holdings Corp	Michael Moltane	Negative	View
1	Kansas City Power & Light Co.	Michael Gammon	Negative	View
1	Keys Energy Services	Stan T. Rzad	Negative	View
1	Lake Worth Utilities	Walt Gill	Affirmative	
1	Lakeland Electric	Larry E Watt	Affirmative	
1	Lincoln Electric System	Doug Bantam		
1	Long Island Power Authority	Robert Ganley	Affirmative	View
1	Lower Colorado River Authority	Martyn Turner	Affirmative	
1	Manitoba Hydro	Michelle Rheault	Affirmative	
1	Metropolitan Water District of Southern California	Ernest Hahn	Abstain	
1	MidAmerican Energy Co.	Terry Harbour	Negative	View
1	Minnesota Power, Inc.	Randi Woodward	Affirmative	
1	National Grid	Saurabh Saksena	Affirmative	View
1	Nebraska Public Power District	Richard L. Koch	Affirmative	
1	New York Power Authority	Arnold J. Schuff	Affirmative	
1	Northeast Utilities	David H. Boguslawski	Negative	View
1	NorthWestern Energy	John Canavan	Affirmative	
1	Ohio Valley Electric Corp.	Robert Mattey	Affirmative	
1	Oklahoma Gas and Electric Co.	Marvin E VanBebber	Affirmative	
1	Omaha Public Power District	Douglas G Peterchuck	Negative	
1	Orlando Utilities Commission	Brad Chase	Affirmative	
1	Otter Tail Power Company	Lawrence R. Larson	Affirmative	
1	Pacific Gas and Electric Company	Chifong L. Thomas	Affirmative	View
1	PacifiCorp	Mark Sampson	Negative	
1	PECO Energy	Ronald Schloendorn	Affirmative	
1	Platte River Power Authority	John C. Collins	Negative	View
1	Potomac Electric Power Co.	Richard J Kafka	Affirmative	View
1	PowerSouth Energy Cooperative	Larry D. Avery	Negative	
1	PPL Electric Utilities Corp.	Brenda L Truhe	Affirmative	View
1	Public Service Company of New Mexico	Laurie Williams	Negative	View
1	Public Service Electric and Gas Co.	Kenneth D. Brown	Affirmative	View
1	Public Utility District No. 1 of Chelan County	Chad Bowman	Affirmative	
1	Puget Sound Energy, Inc.	Catherine Koch		
1	Sacramento Municipal Utility District	Tim Kelley	Affirmative	
1	Salt River Project	Robert Kondziolka	Affirmative	

1	Santee Cooper	Terry L. Blackwell	Affirmative	
1	SCE&G	Henry Delk, Jr.	Negative	View
1	Seattle City Light	Pawel Krupa	Negative	View
1	South Texas Electric Cooperative	Richard McLeon	Affirmative	
1	Southern California Edison Co.	Dana Cabbell	Affirmative	
1	Southern Company Services, Inc.	Horace Stephen Williamson	Affirmative	View
1	Southern Illinois Power Coop.	William G. Hutchison	Negative	
1	Southwest Transmission Cooperative, Inc.	James L. Jones	Abstain	
1	Southwestern Power Administration	Gary W Cox	Abstain	
1	Sunflower Electric Power Corporation	Noman Lee Williams	Affirmative	
1	Tennessee Valley Authority	Larry Akens	Affirmative	
1	Tri-State G & T Association Inc.	Keith V. Carman	Affirmative	
1	Tucson Electric Power Co.	John Tolo	Negative	View
1	United Illuminating Co.	Jonathan Appelbaum	Affirmative	
1	Westar Energy	Allen Klassen	Negative	
1	Western Area Power Administration	Brandy A Dunn	Affirmative	View
1	Xcel Energy, Inc.	Gregory L Pieper	Negative	View
2	Alberta Electric System Operator	Jason L. Murray	Abstain	
2	BC Transmission Corporation	Faramarz Amjadi	Negative	
2	Electric Reliability Council of Texas, Inc.	Chuck B Manning	Affirmative	
2	Independent Electricity System Operator	Kim Warren	Affirmative	View
2	ISO New England, Inc.	Kathleen Goodman	Affirmative	
2	Midwest ISO, Inc.	Jason L Marshall	Abstain	View
2	New York Independent System Operator	Gregory Campoli		
2	PJM Interconnection, L.L.C.	Tom Bowe	Abstain	
2	Southwest Power Pool	Charles H Yeung	Abstain	
3	Alabama Power Company	Richard J. Mandes	Affirmative	View
3	Allegheny Power	Bob Reeping	Affirmative	
3	Ameren Services	Mark Peters	Negative	
3	American Electric Power	Raj Rana	Negative	View
3	Arizona Public Service Co.	Thomas R. Glock	Negative	View
3	Atlantic City Electric Company	James V. Petrella	Affirmative	View
3	BC Hydro and Power Authority	Pat G. Harrington	Abstain	
3	Bonneville Power Administration	Rebecca Berdahl	Negative	View
3	Central Lincoln PUD	Steve Alexanderson	Affirmative	
3	City of Bartow, Florida	Matt Culverhouse	Abstain	
3	City of Clewiston	Lynne Mila	Negative	
3	City of Farmington	Linda R. Jacobson	Affirmative	
3	City of Green Cove Springs	Gregg R Griffin	Negative	
3	City of Leesburg	Phil Janik	Negative	
3	ComEd	Bruce Krawczyk	Affirmative	
3	Consolidated Edison Co. of New York	Peter T Yost	Negative	View
3	Consumers Energy	David A. Lapinski	Negative	View
3	Cowlitz County PUD	Russell A Noble	Affirmative	
3	Delmarva Power & Light Co.	Michael R. Mayer	Affirmative	
3	Detroit Edison Company	Kent Kujala	Affirmative	
3	Dominion Resources Services	Michael F Gildea	Affirmative	
3	Duke Energy Carolina	Henry Ernst-Jr	Affirmative	
3	East Kentucky Power Coop.	Sally Witt	Affirmative	
3	Entergy	Joel T Plessinger	Affirmative	
3	FirstEnergy Solutions	Kevin Querry	Affirmative	View
3	Florida Power Corporation	Lee Schuster	Affirmative	
3	Gainesville Regional Utilities	Kenneth Simmons	Affirmative	
3	Georgia Power Company	Anthony L Wilson	Affirmative	View
3	Georgia System Operations Corporation	R Scott S. Barfield-McGinnis	Affirmative	
3	Great River Energy	Sam Kokkinen	Affirmative	
3	Gulf Power Company	Gwen S Frazier	Affirmative	View
3	Hydro One Networks, Inc.	Michael D. Penstone	Affirmative	
3	JEA	Garry Baker	Negative	View
3	Kansas City Power & Light Co.	Charles Locke	Negative	View
3	Kissimmee Utility Authority	Gregory David Woessner	Negative	
3	Lakeland Electric	Mace Hunter	Affirmative	View
3	Lincoln Electric System	Bruce Merrill	Negative	View
3	Los Angeles Department of Water & Power	Kenneth Silver		
3	Louisville Gas and Electric Co.	Charles A. Freibert	Affirmative	View
3	Manitoba Hydro	Greg C Parent	Affirmative	
3	MEAG Power	Steven Grego	Affirmative	

3	MidAmerican Energy Co.	Thomas C. Mielnik	Negative	View
3	Mississippi Power	Don Horsley	Affirmative	View
3	Municipal Electric Authority of Georgia	Steven M. Jackson	Affirmative	
3	Muscatine Power & Water	John S Bos	Affirmative	
3	New York Power Authority	Marilyn Brown	Affirmative	
3	Niagara Mohawk (National Grid Company)	Michael Schiavone	Affirmative	View
3	Northern Indiana Public Service Co.	William SeDoris	Negative	
3	Ocala Electric Utility	David T. Anderson	Affirmative	
3	Orlando Utilities Commission	Ballard Keith Mutters	Abstain	
3	PacifiCorp	John Apperson	Negative	
3	PECO Energy an Exelon Co.	Vincent J. Catania	Affirmative	
3	Platte River Power Authority	Terry L Baker	Negative	View
3	Potomac Electric Power Co.	Robert Reuter		
3	Progress Energy Carolinas	Sam Waters	Affirmative	
3	Public Service Electric and Gas Co.	Jeffrey Mueller	Affirmative	
3	Public Utility District No. 1 of Chelan County	Kenneth R. Johnson	Abstain	
3	Public Utility District No. 2 of Grant County	Greg Lange	Negative	View
3	Sacramento Municipal Utility District	James Leigh-Kendall	Affirmative	
3	Salem Electric	Anthony Schacher	Affirmative	
3	Salt River Project	John T. Underhill	Affirmative	
3	San Diego Gas & Electric	Scott Peterson	Negative	
3	Santee Cooper	Zack Dusenbury	Affirmative	
3	Seattle City Light	Dana Wheelock	Negative	View
3	Southern California Edison Co.	David Schiada	Affirmative	
3	Springfield Utility Board	Jeff Nelson	Affirmative	
3	Tampa Electric Co.	Ronald L Donahey	Affirmative	
3	Tri-State G & T Association Inc.	Janelle Marriott	Affirmative	
3	Wisconsin Electric Power Marketing	James R. Keller	Negative	View
3	Wisconsin Public Service Corp.	Gregory J Le Grave	Affirmative	
3	Xcel Energy, Inc.	Michael Ibold	Negative	View
4	Alliant Energy Corp. Services, Inc.	Kenneth Goldsmith	Negative	
4	American Municipal Power - Ohio	Kevin Koloini	Negative	
4	American Public Power Association	Allen Mosher	Affirmative	
4	City of Clewiston	Kevin McCarthy	Negative	
4	City of New Smyrna Beach Utilities Commission	Timothy Beyrle	Negative	
4	Consumers Energy	David Frank Ronk	Negative	View
4	Cowlitz County PUD	Rick Syring	Affirmative	
4	Detroit Edison Company	Daniel Herring	Affirmative	
4	Florida Municipal Power Agency	Frank Gaffney	Affirmative	View
4	Fort Pierce Utilities Authority	Thomas W. Richards	Negative	View
4	Georgia System Operations Corporation	Guy Andrews	Affirmative	
4	Illinois Municipal Electric Agency	Bob C. Thomas	Affirmative	View
4	Integrys Energy Group, Inc.	Christopher Plante	Negative	View
4	Madison Gas and Electric Co.	Joseph G. DePoorter	Negative	View
4	Ohio Edison Company	Douglas Hohlbaugh	Affirmative	View
4	Old Dominion Electric Coop.	Mark Ringhausen	Affirmative	View
4	Public Utility District No. 1 of Douglas County	Henry E. LuBean	Affirmative	
4	Public Utility District No. 1 of Snohomish County	John D. Martinsen		
4	Sacramento Municipal Utility District	Mike Ramirez	Affirmative	
4	Seattle City Light	Hao Li	Negative	View
4	Seminole Electric Cooperative, Inc.	Steven R Wallace		
4	South Mississippi Electric Power Association	Steve McElhaney		
4	Wisconsin Energy Corp.	Anthony Jankowski	Negative	View
4	Y-W Electric Association, Inc.	James A Ziebarth	Affirmative	View
5	AEP Service Corp.	Brock Ondayko	Negative	View
5	Amerenue	Sam Dwyer	Negative	
5	APS	Mel Jensen	Negative	View
5	Avista Corp.	Edward F. Groce	Negative	
5	Black Hills Corp	George Tatar	Negative	
5	Bonneville Power Administration	Francis J. Halpin	Affirmative	
5	Chelan County Public Utility District #1	John Yale	Negative	View
5	City of Grand Island	Jeff Mead	Negative	View
5	City of Tallahassee	Alan Gale	Affirmative	
5	City Water, Light & Power of Springfield	Karl E. Kohlrus	Affirmative	
5	Consolidated Edison Co. of New York	Wilket (Jack) Ng	Negative	

5	Constellation Power Source Generation, Inc.	Amir Y Hammad	Negative	View
5	Consumers Energy	James B Lewis	Affirmative	
5	Cowlitz County PUD	Bob Essex	Affirmative	
5	Dominion Resources, Inc.	Mike Garton	Affirmative	
5	Duke Energy	Robert Smith	Negative	
5	Dynegy Inc.	Dan Roethemeyer	Affirmative	
5	East Kentucky Power Coop.	Stephen Ricker	Affirmative	
5	Energy Northwest - Columbia Generating Station	Doug Ramey	Affirmative	
5	Entegra Power Group, LLC	Kenneth Parker	Negative	View
5	Entergy Corporation	Stanley M Jaskot	Affirmative	
5	FirstEnergy Solutions	Kenneth Dresner	Affirmative	View
5	Florida Municipal Power Agency	David Schumann	Affirmative	View
5	Green Country Energy	Greg Froehling	Affirmative	
5	Horizon Wind Energy	Brent Hebert	Affirmative	
5	Indeck Energy Services, Inc.	Rex A Roehl	Affirmative	
5	JEA	Donald Gilbert	Abstain	
5	Kansas City Power & Light Co.	Scott Heidtbrink	Negative	View
5	Kissimmee Utility Authority	Mike Blough	Negative	
5	Lakeland Electric	Thomas J Trickey	Negative	
5	Liberty Electric Power LLC	Daniel Duff	Affirmative	
5	Lincoln Electric System	Dennis Florom	Negative	View
5	Louisville Gas and Electric Co.	Charlie Martin	Affirmative	
5	Luminant Generation Company LLC	Mike Laney	Affirmative	
5	Manitoba Hydro	Mark Aikens	Affirmative	
5	Massachusetts Municipal Wholesale Electric Company	David Gordon	Affirmative	
5	New Harquahala Generating Co. LLC	Nicholas Q Hayes	Affirmative	
5	New York Power Authority	Gerald Mannarino	Negative	
5	Northern Indiana Public Service Co.	Michael K Wilkerson	Negative	
5	Otter Tail Power Company	Stacie Hebert	Affirmative	
5	PacifiCorp	Sandra L. Shaffer	Negative	
5	Portland General Electric Co.	Gary L Tingley		
5	PowerSouth Energy Cooperative	Tim Hattaway	Abstain	
5	PPL Generation LLC	Mark A Heimbach	Negative	View
5	Progress Energy Carolinas	Wayne Lewis	Affirmative	View
5	PSEG Power LLC	David Murray	Affirmative	View
5	Public Utility District No. 1 of Lewis County	Steven Grega	Negative	
5	Reedy Creek Energy Services	Bernie Budnik	Negative	
5	RRI Energy	Thomas J. Bradish	Affirmative	
5	Sacramento Municipal Utility District	Bethany Wright	Affirmative	
5	Salt River Project	Glen Reeves	Affirmative	View
5	San Diego Gas & Electric	Daniel Baerman	Negative	
5	Seattle City Light	Michael J. Haynes	Negative	View
5	Seminole Electric Cooperative, Inc.	Brenda K. Atkins		
5	South Carolina Electric & Gas Co.	Richard Jones		
5	South Mississippi Electric Power Association	Jerry W Johnson	Negative	
5	Southern Company Generation	William D Shultz	Negative	View
5	Tampa Electric Co.	RJames Rocha		
5	Tenaska, Inc.	Scott M. Helyer	Affirmative	
5	Tennessee Valley Authority	George T. Ballew	Affirmative	
5	TransAlta Centralia Generation, LLC	Joanna Luong-Tran	Abstain	
5	Tri-State G & T Association Inc.	Barry Ingold	Affirmative	
5	U.S. Army Corps of Engineers Northwestern Division	Karl Bryan	Affirmative	
5	U.S. Bureau of Reclamation	Martin Bauer P.E.	Negative	View
5	Wisconsin Electric Power Co.	Linda Horn	Negative	View
5	Wisconsin Public Service Corp.	Leonard Rentmeester	Negative	
5	Xcel Energy, Inc.	Liam Noailles	Negative	View
6	AEP Marketing	Edward P. Cox	Negative	
6	Ameren Energy Marketing Co.	Jennifer Richardson	Negative	
6	Bonneville Power Administration	Brenda S. Anderson	Affirmative	
6	Cleco Power LLC	Matthew D Cripps	Affirmative	
6	Consolidated Edison Co. of New York	Nickesha P Carrol	Negative	View
6	Constellation Energy Commodities Group	Brenda Powell	Negative	
6	Dominion Resources, Inc.	Louis S Slade	Affirmative	View
6	Duke Energy Carolina	Walter Yeager	Affirmative	
6	Entergy Services, Inc.	Terri F Benoit	Negative	View

6	Eugene Water & Electric Board	Daniel Mark Bedbury	Affirmative	
6	Exelon Power Team	Pulin Shah	Affirmative	
6	FirstEnergy Solutions	Mark S Travaglianti	Affirmative	View
6	Florida Municipal Power Agency	Richard L. Montgomery	Affirmative	View
6	Florida Municipal Power Pool	Thomas E Washburn	Negative	View
6	Florida Power & Light Co.	Silvia P Mitchell	Affirmative	View
6	Great River Energy	Donna Stephenson	Affirmative	
6	Kansas City Power & Light Co.	Thomas Saitta	Negative	View
6	Lakeland Electric	Paul Shipps	Affirmative	
6	Lincoln Electric System	Eric Ruskamp	Negative	View
6	Louisville Gas and Electric Co.	Daryn Barker	Affirmative	
6	Luminant Energy	Brad Jones	Affirmative	
6	Manitoba Hydro	Daniel Prowse	Affirmative	
6	New York Power Authority	Thomas Papadopoulos	Negative	
6	Northern Indiana Public Service Co.	Joseph O'Brien	Negative	View
6	Omaha Public Power District	David Ried	Negative	
6	OTP Wholesale Marketing	Bruce Glorvigen	Affirmative	
6	Progress Energy	James Eckelkamp	Affirmative	
6	PSEG Energy Resources & Trade LLC	James D. Hebson	Affirmative	View
6	Public Utility District No. 1 of Chelan County	Hugh A. Owen	Negative	View
6	RRI Energy	Trent Carlson	Affirmative	
6	Santee Cooper	Suzanne Ritter	Affirmative	
6	Seattle City Light	Dennis Sismaet	Negative	View
6	Seminole Electric Cooperative, Inc.	Trudy S. Novak		
6	South Carolina Electric & Gas Co.	Matt H Bullard	Abstain	
6	Tennessee Valley Authority	Marjorie S. Parsons	Affirmative	
6	Western Area Power Administration - UGP Marketing	John Stonebarger	Affirmative	
6	Xcel Energy, Inc.	David F. Lemmons	Negative	View
8		Roger C Zaklukiewicz	Negative	View
8		James A Maenner	Abstain	
8		Kristina M. Loudermilk	Affirmative	
8		Merle Ashton	Affirmative	
8	Ascendant Energy Services, LLC	Raymond Tran	Affirmative	
8	JDRJC Associates	Jim D. Cyrulewski	Negative	View
8	Pacific Northwest Generating Cooperative	Margaret Ryan	Abstain	
8	Power Energy Group LLC	Peggy Abbadini		
8	SPS Consulting Group Inc.	Jim R Stanton	Negative	View
8	Utility Services, Inc.	Brian Evans-Mongeon	Negative	View
8	Volkmann Consulting, Inc.	Terry Volkmann	Affirmative	
9	California Energy Commission	William Mitchell Chamberlain	Negative	View
9	Commonwealth of Massachusetts Department of Public Utilities	Donald E. Nelson	Affirmative	
9	National Association of Regulatory Utility Commissioners	Diane J. Barney	Affirmative	
9	Oregon Public Utility Commission	Jerome Murray	Abstain	
9	Public Service Commission of South Carolina	Philip Riley	Affirmative	
9	Utah Public Service Commission	Ric Campbell	Affirmative	
10	Florida Reliability Coordinating Council	Linda Campbell	Abstain	
10	Midwest Reliability Organization	Dan R. Schoenecker	Negative	View
10	New York State Reliability Council	Alan Adamson	Negative	
10	Northeast Power Coordinating Council, Inc.	Guy V. Zito	Negative	
10	ReliabilityFirst Corporation	Jacquie Smith	Affirmative	
10	SERC Reliability Corporation	Carter B Edge	Affirmative	
10	Western Electricity Coordinating Council	Louise McCarren	Abstain	

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on Second Ballot — Project 2007-17 Protection System Maintenance (Protection System definition)

Date of Second Ballot: 07/23/10 - 08/02/10

Summary Consideration: There were numerous comments opposing balloting the definition separately from the definition; the NERC BOT has directed that a revised definition be approved as quickly as possible to close a reliability gap. Many other comments were offered relative to the standard, not the definition, and the SDT noted this in its responses.

Some commenters suggested the "station dc supply" portion of the definition be modified to specifically address battery chargers; the SDT modified the definition as suggested. The revised definition is shown below:

Protection System –

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

The SDT did not make any other modifications to the definition and did not make any modifications to the implementation plan based on stakeholder comments submitted with ballots.

If you feel that the drafting team overlooked your comments, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Herb Schrayshuen, at 609-452-8060 or at herb.schrayshuen@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

[1] The appeals process is in the Reliability Standards Development Procedure: http://www.nerc.com/files/RSDP_V6_1_12Mar07.pdf.

Voter	Entity	Segment	Vote	Comment
Kirit S. Shah	Ameren Services	1	Negative	1. Remove "devices providing" yielding 'voltage and current sensing inputs to protective relays'. This will match the SDT intent with which we concur. "The definition has been changed for clarity; the SDT intends that the output of these devices, measured at the relay should properly represent the primary quantities." 2. The 12 month implementation plan is an improvement, but will result in multiple maintenance plan changes within a short time. We believe that the implementation of the revised definition and PRC-005-2 PSMP must align on the same date.
Response: Thank you for your comments. 1. The definition of Protection System is for all applications of this term throughout NERC Standards. The detailed applicability of this element of the definition relative to maintenance within PRC-005-2 is addressed within the standard by specifying, "Verify that acceptable measurements of the current and voltage signals are received by the protective relays". 2. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Terri F Benoit	Entergy Services, Inc.	6	Negative	2007-17 the definition - Negative with Comments: The following are the reasons associated with our Negative Ballot. 1. We agree with the definition, however we do not agree with the implementation plan. We believe implementation of the definition needs to coincide with the implementation of Standard PRC-005-2. To do otherwise, will cause entities to address equipment, documentation, work management process, and employee training changes needed for compliance twice within an unreasonably short timeframe. 2. A 12 month minimum timeframe is need to implement this definition
Response: Thank you for your comments.				

Voter	Entity	Segment	Vote	Comment
1. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1. 2. The SDT modified the implementation plan to provide a 12-month implementation period with the previous posting.				
Brenda L Truhe	PPL Electric Utilities Corp.	1	Affirmative	Although PPL EU previously voted against this definition, due to the change in language, we now support this definition.
Response: Thank you for your comments.				
John C. Collins	Platte River Power Authority	1	Negative	Although the applicable relays to which protective relays are outlined in the NERC PRC-005-2 Protection system Maintenance Draft Supplementary Reference dated May 27, 2010, they are not defined in the NERC Glossary of terms. Until it is clearly defined which relays are included inconsistencies will exists from region to region in their audit approaches and which relays they will be looking at. Also, there is still debate why the protective relays would extend to mechanical devices such as the lock-out relay and tripping for trip-free relays. In our system configuration we risk reliability to customer load by testing the lock-out relays which we feel out weights the benefit of testing devices that we see little to no evidence of failure in.
Terry L Baker	Platte River Power Authority	3	Negative	
Response: Thank you for your comments. The definition of Protection System is for all applications of this term throughout NERC Standards. The detailed applicability of the definition relative to maintenance within PRC-005-2 is addressed within the standard. Your comments appear to be on the draft standard PRC-005-2, rather than on the definition. Failure of a lock-out relay or tripping relay can keep a circuit (or multiple circuits) from clearing a fault. Routine testing of these devices could find problems before the system needs them to clear a fault.				
Mel Jensen	APS	5	Negative	Although the SDT has made changes in trying to define the Protection System the definition remains too prescriptive. In particular, the devices providing current and voltage inputs as well as the dc supply. These items are also used for other functions not related to the reliability of the BES. They are critical to business and operation of the generating systems and not solely dedicated to protective relaying. Including them in the definition obligates the utility to methods where there should be some discretion.
Robert D Smith	Arizona Public Service Co.	1	Negative	

Voter	Entity	Segment	Vote	Comment
Response: Thank you for your comments. The SDT is aware that many devices have multiple functions within the business of supplying power to loads. Regardless of these other functions, if a device is a part of a Protection System then it must be maintained in accordance withPRC-005. The definition of Protection System is for all applications of this term throughout NERC Standards. The detailed applicability of the definition relative to maintenance within PRC-005-2 is addressed within the standard.				
Stan T. Rzad	Keys Energy Services	1	Negative	As written, is opens up the PRC-005 standard to Technical Feasibility Exceptions because some batteries are not able to accommodate all of the tests proscribed in the draft standard. The draft standard would cause NERC to regulate through the standards battery testing, DC circuit testing, etc. on distribution elements with no significant improvement to BES reliability, which is beyond the statutary scope of the standards The standard unreasonably retains the "100% compliance" paradigm for thousands, if not millions of protection system components.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself.				
Joseph S. Stonecipher	Beaches Energy Services	1	Negative	Because the definition changes the scope of what PRC-005 covers, the definition should not be balloted separately from PRC-005 so that the industry knows what is being committed to. What happens if the standard is voted down but the definition change is passed? For instance, the circuitry connecting the voltage and current sensing devices to the relays is a scope expansion. Station DC supply increases the scope to include the charger, etc. This scope increase needs to have an appropriate implementation period.
Thomas W. Richards	Fort Pierce Utilities Authority	4	Negative	
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Paul Rocha	CenterPoint Energy	1	Negative	CenterPoint Energy does not support any Protection System definition that includes the trip coils of the interrupting devices.
Response: Thank you for your comments. The current definition includes "DC Control Circuitry"; the SDT attempted to clarify the definition by stating which				

Voter	Entity	Segment	Vote	Comment
of the many control circuits are included. Because the current definition is vague, it can certainly include the trip coils, close coils, and alarm circuits of the interrupting device. The SDT believes that the electrically-operated trip coils are an important part of the control circuitry.				
Christopher L de Graffenried	Consolidated Edison Co. of New York	1	Negative	Comment: There is not enough clarity on whether a Distribution Provider (DP) will be able to clearly identify which protection system components it does own and needs to maintain. Many DPs own and/or operate equipment identified in the existing or proposed definition. However, not all such equipment translates into a transmission Protection System. The definition needs clarification on when such equipment is a part of the transmission protection system. Also, the time provided for the first phase "at least six months" is too open ended and does not provide entities with a clear timeline. It is suggested that one year is appropriate for the first phase phasing out the second year in stages.
Nickesha P Carrol	Consolidated Edison Co. of New York	6	Negative	
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself. Regarding the comment that the definition needs to identify when equipment is part of the transmission system, this is properly an issue to address in the various standards that use this definition.				
Hugh A. Owen	Public Utility District No. 1 of Chelan County	6	Negative	Comments have convinced me that ambiguities in the requirements will make compliance/enforcement difficult and the testing procedures may not lead to greater reliability.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself.				
Charles A. Freibert	Louisville Gas and Electric Co.	3	Affirmative	Comments will be submitte4d under the comment form
Response: Thank you for your comments. There was no formal comment period with the second ballot of the proposed definition.				

Voter	Entity	Segment	Vote	Comment
Ralph Frederick Meyer	Empire District Electric Co.	1	Negative	Comments: It is still unclear whether relays that respond to mechanical inputs, such as sudden pressure relays, are included in the proposed definition as protective relays. While PRC-005-2 R1 limits the scope of that particular standard to protection systems that sense electrical quantities, it is remains unclear in other standards that use the defined term whether mechanical input protections are included. We suggest that "Protective Relay" also be defined, and that the definition clearly exclude devices that respond to mechanical inputs in line with the NERC interpretation of PRC-005-1 in response to the CMPWG request.
Response: Thank you for your comments. The definition has been modified to include only protective relays that respond to electrical quantities. The SDT sees no need to either repeat or modify the IEEE definition of protective relays.				
Michael J. Haynes	Seattle City Light	5	Negative	Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices. - In order to comply with this statement utilities would need to conduct functional tests of their relay system. This type of test is problematic. A better definition would be to test the output of the relay.
Response: Thank you for your comments. This component of the Protection System definition is to generally include this functionality as a part of the Protection System for all applications of the definition throughout NERC Standards. The detailed applicability of this component relative to maintenance within PRC-005-2 is addressed within the standard, which defines the maintenance required relative to control circuits. The SDT agrees that testing will be required in the standard itself.				
Jim D. Cyrulewski	JDRJC Associates	8	Negative	1. Definition needs to be more specific. Case in point if the drafting team wants to include battery chargers should state so. 2. Also implementation plan does not appear to be in synch with proposed changes.
Response: Thank you for your comments. 1. The current definition uses the term batteries in place of dc supply. The use of the term batteries was quite specific and as such excluded battery chargers. The definition has been modified to specifically include battery chargers. Battery chargers are now expected to be covered within the proposed definition and the term dc supply, so too are systems that do not use batteries and/or battery chargers. 2. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given				

Voter	Entity	Segment	Vote	Comment
"priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Daniel Brotzman	Commonwealth Edison Co.	1	Affirmative	Exelon suggests that the definition further clarify protective relays that are in scope by adding the following to the frequently asked questions: 1. "devices providing inputs to protective relays" - this is to clarify that testing for CTs and PTs will only ensure proper voltage and current into the relay - therefore not requiring CT and PT testing. 2. Elimination of "from the station dc supply" - the intent here is that the DC is testing only the trip functionality to ensure that certain relays actuate (e.g., 86 and 94 devices) and to ensure that breaker trip coils are exercised on a 6 year periodicity. Therefore, the ancillary wiring part of the controls will be on a longer periodicity (e.g., 12 years)
Response: Thank you for your comments. Your comments appear to be relative to the FAQs for PRC-005-2, rather than the definition. The SDT will consider these comments when it updates the FAQs.				
Robert Martinko	FirstEnergy Energy Delivery	1	Affirmative	FirstEnergy appreciates the hard work of the drafting team, but ask that the team consider the following suggestions: It is our understanding that the phrase "Station DC supply" in the definition is intended to cover the Battery, Battery Charger, and other DC supplies sources such as flywheels, fuel cells, and motor-generator sets. However, since the current Protection System Maintenance and Testing standard PRC-005-1 does not specify maintenance activities, as does the proposed Version 2 of PRC-005, it therefore does not provide compliance certainty related to mandatory expectations. This is because the current standard only requires that an entity develop a maintenance program and follows their program. Therefore, it is not clear from the definition that Battery Chargers must be included in the maintenance program developed per PRC-005-1. As we stated in our Initial Ballot comments, the phrase "Station DC supply" should be clarified. In response to our Initial Ballot comments the SDT stated "Clarifications such as this properly belong in supplementary materials. This is described in the FAQ posted in June 2010 (FAQ II.5.A)". We do not agree that supplementary materials should be relied upon to determine
Kevin Querry	FirstEnergy Solutions	3	Affirmative	
Kenneth Dresner	FirstEnergy Solutions	5	Affirmative	
Mark S Travaglianti	FirstEnergy Solutions	6	Affirmative	
Douglas Hohlbaugh	Ohio Edison Company	4	Affirmative	

Voter	Entity	Segment	Vote	Comment
				"what" is required and should only give you guidance on "how" to comply. The "what" should be described in the standard requirements and definitions.
Response: Thank you for your comments. It is the intent of the SDT that battery chargers and other devices that supply power to Protection System devices be included within the definition. As such, those devices have been included within the minimum maintenance activities of PRC-005-2. However, in the interim before PRC-005-2 is accepted, under the present PRC-005-1 an entity must have a maintenance program that includes the devices within the definition. PRC-005-1 does not prescribe the maintenance, only that the PSMP must include maintenance for the device. The definition has been modified to specifically include battery chargers.				
Pawel Krupa	Seattle City Light	1	Negative	Functional testing is impractical.
Dana Wheelock	Seattle City Light	3	Negative	
Hao Li	Seattle City Light	4	Negative	
Response: Thank you for your comments. The definition of Protection System is for all applications of this term throughout NERC Standards. The detailed applicability of this element relative to maintenance within PRC-005-2 is addressed within the standard, which defines the maintenance required relative to control circuits. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself. The SDT agrees that testing will be required in the standard itself.				
Dennis Sismaet	Seattle City Light	6	Negative	Functional testing is impractical. Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices. - " In order to comply with this statement utilities would need to functional test their relay system. A better definition would be to test the output of the relay"
Response: Thank you for your comments. The definition of Protection System is for all applications of this term throughout NERC Standards. The detailed applicability of this element relative to maintenance within PRC-005-2 is addressed within the standard, which defines the maintenance required relative to control circuits. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself. The SDT agrees that testing will be required in the standard itself.				
Mark Ringhausen	Old Dominion Electric Coop.	4	Affirmative	I am voting Yes on the ballot, but I do have a small issue with the wording of 'station DC supply'. In some of our UFLS locations, we are not in a substation, but out on the feeder circuit and utilizing the DC supply on the feeder recloser. I think my reading of this definition would apply to this recloser DC supply as well as the

Voter	Entity	Segment	Vote	Comment
				Station DC Supply.
Response: Thank you for your comments. Your concern is appreciated. A review of the standard itself shows that the dc supply maintenance activities are minimal related to UFLS.				
Jeff Mead	City of Grand Island	5	Negative	I echo MRO NSRS comments.
Response: Thank you for your comments. The station dc supply element has been modified essentially as you suggest. As to your suggestion regarding inclusion of "BES' within the definition – this is properly an issue to address in the various standards that use this definition.				
John Yale	Chelan County Public Utility District #1	5	Negative	If the new definition is: The new proposed definition of Protection System reads as follows: Protection System: o Protective relays which respond to electrical quantities, o Communications systems necessary for correct operation of protective functions, o Voltage and current sensing devices providing inputs to protective relays, o Station dc supply, and o Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices. In this list format, it appears it is the entire station dc supply not just that portion and circuitry associated with the protective circuits. This is an unreasonable burden as many parts of the station dc supply are used for non-protective functions.
Response: Thank you for your comments. The SDT has modified the definition in consideration of your comments. That bullet now reads: station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply)				
Joseph O'Brien	Northern Indiana Public Service Co.	6	Negative	1. It is still not clear whether battery chargers fall under this definition. 2. The implementation plan should be coordinated with the new PRC-005-2, not -1. 3. It's not clear if a breaker trip has to be actuated to test/maintain the control circuitry through the trip coils.

Voter	Entity	Segment	Vote	Comment
Response: Thank you for your comments. 1. The definition has been modified to specifically include battery chargers. 2. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1. 3. The draft standard PRC-005-2 includes the minimum maintenance activities. Until PRC-005-2 is approved, you need to define the activities and provide a basis for those activities in accordance with PRC-005-1.				
Thomas E Washburn	Florida Municipal Power Pool	6	Negative	It is still unclear whether relays that respond to mechanical inputs, such as sudden pressure relays, are included in the proposed definition as protective relays. While PRC-005-2 R1 limits the scope of that particular standard to protection systems that sense electrical quantities, it is remains unclear in other standards that use the defined term whether mechanical input protections are included. We suggest that "Protective Relay" also be defined, and that the definition clearly exclude devices that respond to mechanical inputs in line with the NERC interpretation of PRC-005-1 in response to the CMPWG request
Response: Thank you for your comments. The definition has been modified to include only protective relays that respond to electrical quantities. The SDT sees no need to either repeat or modify the IEEE definition of protective relays.				
Frank Gaffney	Florida Municipal Power Agency	4	Affirmative	It is unclear in the Implementation Plan if the expectation is to complete the first maintenance and testing cycle, or whether the entities need to be auditably compliant within the one year implementation plan, e.g., prove that they have performed maintenance and testing within the interval defined in the maintenance and testing program of R1, which essentially could mean two maintenances and tests of the same component during the first year for the components identified in the expansion of scope of the definition of Protection System (e.g., battery charger). We encourage the SDT to make this crystal clear, i.e.,, is only the first maintenance and test needed as long as the end of the maintenance and testing interval identified in the maintenance
David Schumann	Florida Municipal Power Agency	5	Affirmative	
Richard L. Montgomery	Florida Municipal Power Agency	6	Affirmative	
Bob C. Thomas	Illinois Municipal Electric Agency	4	Affirmative	

Voter	Entity	Segment	Vote	Comment
				and testing program of R1 has not been reached yet, or are two maintenance and tests needed to be auditably compliant?
Response: Thank you for your comments. The SDT observes that the implementation plan for the definition requires that the entity implement the revised program. The implementation plan also requires completion of maintenance within one full cycle of the revised program.				
Martin Bauer P.E.	U.S. Bureau of Reclamation	5	Negative	1. It is unfortunate that the definition did not retain consistency in the terms. As an example, the definition indicates it includes protective relays and communication systems for the correct operation of protective functions. It would have been better to use the term relays instead of the term functions. 2. Now it is unclear what the communication systems are for, since a different term was used rather than protective relays. Since it is not clear what the communications have to do with protective relays, as it may also include those that do not just respond to electrical quantities, the definition cannot be used to support the standard. 3. The change to insert the term "devices providing" when referring to voltage and current sensing unfortunately eliminates the circuitry form the voltage and current sensing devices to the relays. This was caused by inserting the word "devices". I do not believe it was the SDT intent, however, we are in a literal word world. Since we are primarily focused on the performance of the device as a function of the burden on the device, I cannot vote in favor. My company believes the circuit from the PT and CT must be a part of the Protection System and is arguably of greater concern. Consider that if a PT or CT fails partially or completely it will be known immediately. Maintenance practices will rarely help that predict failure. On the other hand, the circuitry from the voltage and current sensing devices can have a problem that will affect relay performance through instrument transformer error and in most cases is only found through testing. Had you changed "devices" to "circuits" I would agree with providing the first issue addressed as well. The term

Voter	Entity	Segment	Vote	Comment
				"circuits" could have included both (devices and circuits), but as I explained, the latter is more important, more variable, and has been attributed to many protection system failures.
Response: Thank you for your comments. 1. "Protective relays which respond to electrical quantities" is a description intended to clarify which relays are excluded (those not responding to electrical quantities are excluded). However a different descriptor was aimed at communications devices; after all there are many communication circuits employed that are not used for protective functions (voice, alarm data, revenue data, etc.). 2. The term "communications systems necessary for correct operation of protective functions" was chosen to include all methods of conveying tripping, permissive and blocking signals that are used now or may be used in the future. The SDT saw no need to include language that might result in the inclusion of voice equipment. 3. The change to insert the term "devices providing" was to improve clarity while also excluding voltage and current measuring devices that provide data exclusively to metering equipment as opposed to Protection Systems. The SDT agrees with the commenter that an appropriate maintenance activity is to ensure that the measured voltage and current values correctly make it to the relays. The maintenance activity is a part of the standard. The absence of this activity from the definition is not intended to lead one to believe that the activity is not important.				
John J. Moraski	Baltimore Gas & Electric Company	1	Negative	It seems not to be the intention of the SDT to require testing of CT's and PT's beyond verifying that they that are delivering acceptable signals to relays. Table 1 a of the standard includes: - Voltage & Current Sensing Devices / 12 Calendar Years / Verify proper functioning of the current and voltage circuit inputs from the voltage and current sensing devices to the protective relays. The FAQ's are even clearer and say: ********** 3. Voltage and Current Sensing Device Inputs to Protective Relays A. What is meant by "...verify the current and voltage circuit inputs from the voltage and current sensing devices to the protective relays ..." Do we need to perform ratio, polarity and saturation tests every few

Voter	Entity	Segment	Vote	Comment
Amir Y Hammad	Constellation Power Source Generation, Inc.	5	Negative	years? No. You must prove that the protective relay is receiving the expected values from the voltage and current sensing devices (typically voltage and current transformers). This can be as difficult as is proposed by the question (with additional testing on the cabling and substation wiring to ensure that the values arrive at the relays); or simplicity can be achieved by other verification methods. Some examples follow: - Compare the secondary values, at the relay, to a metering circuit, fed by different current transformers, monitoring the same line as the questioned relay circuit. - Compare the values, as determined by the questioned relay, to another protective relay monitoring the same line, with currents supplied by different CTs. - Query SCADA for the power flows at the far end of the line protected by the questioned relay, compare those SCADA values to the values as determined by the questioned relay. - Totalize the Watts and VARs on the bus and compare the totals to the values as seen by the questioned relay. The point of the verification procedure is to ensure that all of the individual components are functioning properly; and that, an ongoing proactive procedure is in place to re-check the various components of the protective relay measuring systems. ********** But the neither the originally revised or newly revised definitions carry that implication very well. Suppose the phrase in the definition were changed from: "Voltage and current sensing devices providing inputs to protective relays" to; "Voltage and current sensing device output circuits and the associated circuits to the inputs of protective relays". This would make the whole definition read: Protection System: Protective relays which respond to electrical quantities, communication systems necessary for correct operation of protective functions, voltage and current sensing device output circuits and the associated circuits to the inputs of protective relays, station dc supply, and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the				

Voter	Entity	Segment	Vote	Comment
responses to ballot comments and the consideration of comments on the standard itself. You have put together a complete discussion of the fact that there is more to a system than merely 5 listed devices.				
Garry Baker	JEA	3	Negative	JEA believes the change in the definition should coordinate with the new standard PRC-005-002.
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
William Mitchell Chamberlain	California Energy Commission	9	Negative	Lack of clarity or apparent conflict between certain requirements would make compliance assessment difficult.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself.				
Bruce Merrill	Lincoln Electric System	3	Negative	LES would like to thank the Drafting Team for its time and effort in developing the definition. However, at this time LES believes that the implementation plan for the definition should be directly linked to the approval and implementation schedule for PRC-005-2 and the proposed definition of Protection System is incomplete as written and remains open to interpretation. LES offers the following Protection System definition for the SDT's consideration: "Protection System" is defined as: A system that uses measurements of voltage, current, frequency and/or phase angle to determine anomalies and trips a portion of the BES and consists of 1) Protective relays, and associated auxiliary relays, that initiate trip signals to trip coils, 2) associated communications channels, 3) current and voltage transformers supplying protective relay inputs, 4) dc station supply, excluding battery chargers, and 5) dc control trip path circuitry to the trip coils of BES connected breakers, or equivalent interrupting device, and lockout relays.
Dennis Florom	Lincoln Electric System	5	Negative	
Eric Ruskamp	Lincoln Electric System	6	Negative	
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close				

Voter	Entity	Segment	Vote	Comment
this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1. The SDT disagrees with several aspects of your suggested changes: Auxiliary relays are not a protective relay, but are instead a part of the dc control circuit; "associated" communication systems is too vague to address existing concerns with the definition; battery chargers specifically should NOT be excluded; and "to the trip coils" does not include trip coils as intended by the SDT. The SDT has made changes to the definition which may address other parts of your comment				
Robert Ganley	Long Island Power Authority	1	Affirmative	LIPA offers the following definition which we feel is clearer: Protective relays which respond to electrical quantities, communication systems required for operation of protective functions, voltage and current sensing devices to protective relays, station dc supply, and control circuitry from the associated protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comments. The SDT has adopted your suggestion regarding Protective Relays.				
Saurabh Saksena	National Grid	1	Affirmative	National Grid suggests adding "Protection System Components including" in the beginning. This is because the word "components" has been used extensively throughout the standard and there is no mention of what constitutes a protection system component in the standard. The word "component" does find mention in FAQs, however, it is recommended to mention it in the main standard. Also, National Grid proposes a change in the proposed definition (changing "voltage and current sensing inputs" to "voltage and current sensing devices providing inputs"). The revised definition should read as follows: Protective System Components including Protective relays, communication systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays and associated circuitry from the voltage and current sensing devices, station dc supply, and control circuitry associated with protective functions from the station dc supply through the trip coil(s) of the circuit breakers or other interrupting devices. The time provided for the first phase "at least six months" is too open ended and does not give entities a clear timeline. National Grid

Voter	Entity	Segment	Vote	Comment
				suggests 1 year for the first phase. As a result, National Grid suggests phasing out the second phase in stages.
Response: Thank you for your comments. The SDT believes that inclusion of the defined term within its own definition is not appropriate, and declines to adopt your suggestion regarding the definition. The Implementation Plan and definition have both been modified in a manner that supports your comments.				
Liam Noailles	Xcel Energy, Inc.	5	Negative	NERC has indicated that this definition is being processed to close a reliability gap. It is not clear as to what gap this proposed definition is closing. The use of the term "Station DC Supply" actually introduces more confusion since some entities may view this as only batteries, and not include chargers. It would appear that the intent is to ensure that during a loss of substation service power scenario that the source of power (whatever that may be) to the Protection System is available and able to perform as designed. Recommend the definition be re-written to make it clear as to what components related to this assured source of power are required to be maintained as part of the Protection System, or alternatively define "Station DC Supply".
David F. Lemmons	Xcel Energy, Inc.	6	Negative	
Response: Thank you for your comments. The definition has been modified to specifically include battery chargers.				
David H. Boguslawski	Northeast Utilities	1	Negative	NU believes that a protection system includes: 1) Protective relays which respond to electrical quantities, 2) Communications systems necessary for correct operation of protective functions, 3) Voltage and current sensing devices providing inputs to protective relays", and associated circuitry from the voltage and current sensing devices" 4) Station dc supply, and 5) Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices The proposed definition excludes "and associated circuitry from the voltage and current sensing devices" from item 3. NU believes that the associated circuitry for voltage and current sensing devices should be included. It is our concern that the proposed definition implies PRC-005 will apply specifically to the voltage and current sensing devices and not include the AC circuitry between these devices and the relay inputs.
Response: Thank you for your comments. The words of the definition were chosen to help clarify and exclude devices used exclusively for non-protective functions (metering, etc.), while the maintenance standard itself has a minimum maintenance activity that seeks to demonstrate the importance of the entire				

Voter	Entity	Segment	Vote	Comment
scheme.				
Chifong L. Thomas	Pacific Gas and Electric Company	1	Affirmative	PG&E believes the definition should identify that the protection system is associated with direct BES electrical quantities with the intention of protecting the BES from any device from propagating a problem in one part of the BES to another. The definition should not include associated systems, i.e. auxiliary systems including their transformers, motors, etc. For generating stations the protection included should only be the generator itself and its associated main bank transformer that delivers the power to the system. Likewise, for distribution substations, the protection should only include equipment such as the main transformer that draws power from the BES and not equipment such as distribution feeders.
Response: Thank you for your comments.				
James D. Hebson	PSEG Energy Resources & Trade LLC	6	Affirmative	Please reference comments submitted by the PSEG companies on the official comment form for this standard.
Response: Thank you for your comments. For this second ballot, there was no formal comment period.				
Rebecca Berdahl	Bonneville Power Administration	3	Negative	Please see BPA's comments submitted during the concurrent formal comment period ending July 16, 2010.
Response: Thank you for your comments. The SDT changed the definition following the formal comment period that ended July 16, 2010.				
Mark A Heimbach	PPL Generation LLC	5	Negative	Please see comments submitted by "PPL Supply" on 7/16/10.
Response: Thank you for your comments. The SDT changed the definition following the formal comment period that ended July 16, 2010.				
Laurie Williams	Public Service Company of New Mexico	1	Negative	PNM rejects this definition as too broad and not consistent with the way utilities treat the various items in the definition, but agrees with the proposed changes to the implementation plan.
Response: Thank you for your comments. Absent specific comments on the definition, the SDT is unable to respond to your concerns.				

Voter	Entity	Segment	Vote	Comment
Wayne Lewis	Progress Energy Carolinas	5	Affirmative	Progress Energy does not believe that the definition should be implemented separately from and prior to the implementation of PRC-005-2. We believe there should be a direct linkage between the definition's effective date to the approval and implementation schedule of PRC-005-2. Since this new definition should be directly linked to the proposed revised standard, it would be premature to make this new definition effective prior to the effective date of the new standard. We believe that changes to the maintenance program should be driven by the revision of the PRC standard, not by the revision of a definition.
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Kenneth D. Brown	Public Service Electric and Gas Co.	1	Affirmative	PSE&G is now voting affirmative. Thanks to the drafting team for improving the clarity of the definition.
Response: Thank you for your comments.				
Dan R. Schoenecker	Midwest Reliability Organization	10	Negative	Revise Protection System definition to: o BES Protective relays which respond to electrical quantities, o Communications systems necessary for correct operation of the BES protective functions, o Voltage and current sensing devices providing inputs to BES protective relays, o Battery and battery chargers that supply dc to BES protective relays, communications, and control circuitry, and o Control circuitry associated with the BES protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comments. The station dc supply component type has been modified essentially as you suggest. As to your suggestion regarding inclusion of "BES' within the definition – this is properly an issue to address in the various standards that use this definition.				

Voter	Entity	Segment	Vote	Comment
Thomas C. Mielnik	MidAmerican Energy Co.	3	Negative	Revise Protection System definition to: BES Protective relays which respond to electrical quantities, Communications systems necessary for correct operation of the BES protective functions, Voltage and current sensing devices providing inputs to BES protective relays, Battery and battery chargers that supply dc to BES protective relays, communications, and control circuitry, and Control circuitry associated with the BES protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comments. The station dc supply component type has been modified essentially as you suggest. As to your suggestion regarding inclusion of "BES' within the definition – this is properly an issue to address in the various standards that use this definition.				
Brian Evans-Mongeon	Utility Services, Inc.	8	Negative	see filed comments
Response: Thank you for your comments. The SDT changed the definition following the formal comment period that ended July 16, 2010; there was no formal comment period during the second ballot of the proposed definition.				
Glen Reeves	Salt River Project	5	Affirmative	SRP believes the requirements of the Standard are confusing and may be problematic in determining compliance. We also believe the required functional testing of the breaker trip coil may potentially increase maintenance outages of circuit breakers. In most cases, circuit breaker maintenance outages can be coordinated such that Protection System maintenance and testing can be done simultaneously. However, in some cases this may not be possible. Outages of any BES facility whether planned or unplanned can impact system reliability. SRP suggests that trip coil monitoring devices be included as an acceptable means of ensuring the trip coil is functioning properly. This will help to avoid unnecessary outages.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT provides the following response, in accordance with the responses to comments on the standard itself.				
James V. Petrella	Atlantic City Electric Company	3	Affirmative	Suggested improvement: add "and associated circuitry" to "Voltage and current sensing devices and associated circuitry providing inputs to protective relays".

Voter	Entity	Segment	Vote	Comment
Response: Thank you for your comments. Many other commenters have previously expressed concern with the definition as you suggest, and the SDT believes that the definition as currently posted best expresses this portion of the definition.				
Thomas R. Glock	Arizona Public Service Co.	3	Negative	The change to the definition relative to the voltage and current sensing devices is too prescriptive. Methods of determining the integrity of the voltage and current inputs into the relays to ensure reliability of the devices should be up to the discretion of the utility.
Response: Thank you for your comments. Absent any specific comment regarding how the definition is too prescriptive, the SDT is unable to respond to your concerns. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself.				
William D Shultz	Southern Company Generation	5	Negative	The definition alone is acceptable, but the existing version of PRC-005 does not guarantee any additional maintenance or testing will occur with its ratification. Maintenance methodology documents will have to be revised to include the new definition, but entities may still dictate limited maintenance activities and lengthy intervals which require no additional maintenance to be done. The PRC-005-2 version of the standard includes this revised definition and requires specific maintenance activities at specific intervals. Establishing only a new definition does not close the perceived reliability gap that is the basis for the current vote. The new definition needs to be ratified along with the revised standard.
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Raj Rana	American Electric Power	3	Negative	The definition as drafted includes "Station dc supply." While this appears reasonable and innocuous, the term is unclear and could be construed by an auditor to include a lot of equipment and infrastructure not intended by the PSMT SDT. For example, station battery chargers are typically supplied by station auxiliary power transformers, which in turn are supplied by primary-voltage bus work, primary-voltage fuses, or primary-voltage circuit breakers.

Voter	Entity	Segment	Vote	Comment
				An auditor for either PRC-005 or any other Standard referencing "Protection System" could read that such primary-voltage equipment is part of the Protection System and therefore subject to certain requirements in either PRC-005 or any other Standard referencing Protection System. The definition as drafted includes "Communications systems necessary. . . ". Once again, this term appears innocuous, but it is actually unclear. For example, if a transfer-trip channel is carried on a microwave path, an auditor may decide that the entire microwave equipment, microwave building battery, and microwave building emergency generator are all part of the Protection System, and thus subject to requirements in either PRC-005 or other existing or future Standards that refer to Protection System. AEP recommends that the term be phrased "communications paths" opposed to "communications systems". Similar to the above two items, we are concerned about the inclusion of voltage and current-sensing "devices" in the Definition. As written, applicability can be inferred to the entire device and not merely its output quantities, not only for this Standard but any other that references a Protection System. AEP recommends the phrase "circuitry from voltage and current-sensing devices providing inputs to protective relays" instead of "voltage and current-sensing devices providing inputs to protective relays"
Response: Thank you for your comments. The definition has been modified to specifically include battery chargers. As to your other comments, it appears that your comments apply more to the application of the definition within PRC-005-1 or PRC-005-2 than they do to the definition itself. Within the reference materials associated with PRC-005-2, the SDT advises that equipment associated with microwave systems is part of the communications system. The SDT believes that the proposed definition is less vague than the current definition on the issues you cite, and would improve the situation that you discuss from the current level.				
Michael Moltane	International Transmission Company Holdings Corp	1	Negative	The definition contained in this ballot really needs to be part and parcel of the PRC-005-2 Standard Ballot, since the definition has such a huge impact on the standard itself. It is problematic to vote on a definition and on the standard independent of one another. Therefore, ITC must vote negative on this Ballot.
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical				

Voter	Entity	Segment	Vote	Comment
- not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Michael Schiavone	Niagara Mohawk (National Grid Company)	3	Affirmative	The definition could be worded better
Response: Thank you for your comments. The SDT has modified the definition for improved clarity.				
Kenneth Parker	Entegra Power Group, LLC	5	Negative	The definition infers testing of CTs and PTs which should not be necessary.
Response: Thank you for your comments. The definition of Protection System is for all applications of this term throughout NERC Standards. The detailed applicability of this element of the definition relative to maintenance within PRC-005-2 is addressed within the standard by specifying, "Verify that acceptable measurements of the current and voltage signals are received by the protective relays".				
Christopher Plante	Integrys Energy Group, Inc.	4	Negative	1. The definition should state what is meant by "station dc supply". There continues to be questions in the industry regarding if dc supply includes the battery charger. We believe the charger is not included in station dc supply and that the Definition of Protection System should specifically address the point. 2. Also, the definition should specify BES relays, BES protection functions and elements associated with BES relays and functions.
Response: Thank you for your comments. 1. The definition has been modified to specifically include battery chargers. 2. This is properly an issue to address in the various standards that use this definition.				
Terry Harbour	MidAmerican Energy Co.	1	Negative	The following changes should be incorporated in the definition to insure it is used consistently in PRC-005 and any other standards where it appears. Revise Protection System definition to: o BES Protective relays which respond to electrical quantities, o Communications systems necessary for correct operation of the BES protective functions, o Voltage and current sensing devices providing inputs to BES protective relays, o Battery and battery chargers that supply dc to BES protective relays, communications, and control circuitry, and Control circuitry associated with the BES

Voter	Entity	Segment	Vote	Comment
				protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comments. The station dc supply component type has been modified essentially as you suggest. As to your suggestion regarding inclusion of "BES' within the definition – this is properly an issue to address in the various standards that use this definition.				
Robert W. Roddy	Dairyland Power Coop.	1	Negative	The implementation of the revised definition should not take place until the revised standard PRC-005-2 is in effect.
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
John Tolo	Tucson Electric Power Co.	1	Negative	The mention of communication systems maintenance (M1.) needs more clarity as to the depth of the maintenance required. Also, Table 1a, a 3-month interval to verify that the Protection System communications system is functional is too frequent to be practical.
Response: Thank you for your comments. Your comments do not seem relevant to the definition, but instead appear to be related directly to the revisions to the draft PRC-005-2 itself. The SDT had not completed consideration of comments on the standard when the definition was re-posted. The SDT provides the following response, in accordance with the responses to comments on the standard itself.				
Scott Kinney	Avista Corp.	1	Negative	The modified definition of Protection System now refers to "functions" rather than "devices." What are the "functions?" This new term adds confusion without being defined in the standard.
Response: Thank you for your comments. The reference to "functions" is intended to reflect that there is increasing use, particularly in SPS, of devices which mimic protective relays but are not actually traditional relays.				
Michael Gammon	Kansas City Power & Light Co.	1	Negative	The proposed changes in the Standard are far too prescriptive and do not take into account the multitude of manufacturers

Voter	Entity	Segment	Vote	Comment
Charles Locke	Kansas City Power & Light Co.	3	Negative	equipment by establishing broad maintenance cycles and testing intervals.
Scott Heidtbrink	Kansas City Power & Light Co.	5	Negative	
Thomas Saitta	Kansas City Power & Light Co.	6	Negative	
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. In Order 693, the FERC directed that NERC establish maximum allowable intervals for maintenance of protection systems.				
Jack Stamper	Clark Public Utilities	1	Negative	The proposed definition does not provide the level of clarity that is needed.
Response: Thank you for your comments. The SDT has modified the definition for improved clarity.				
Ajay Garg	Hydro One Networks, Inc.	1	Affirmative	The proposed definition of Protection System needs clarification on when such equipment is a part of the transmission protection system. Emphasis should be on systems and not individual components.
Response: Thank you for your comments. This issue is better addressed in the various standards that use the definition.				
Mace Hunter	Lakeland Electric	3	Affirmative	The proposed draft may introduce TFEs into the PRC standards, not a good thing. The proposed draft reaches beyond the statutory scope of the reliability standards. Perfection is not a realistic goal.
Response: Thank you for your comments. The SDT has modified the definition for improved clarity.				
Kim Warren	Independent Electricity System Operator	2	Affirmative	The proposed revision to the definition has removed the "associated circuitry from the voltage and current sensing devices" which we believe should be included since failure of this wiring will render the Protection System inoperative. On this basis we recommend the following change to once again include this circuitry in the definition: "Protective relays which respond to electrical quantities, communication systems necessary for correct operation of protective functions, voltage and current sensing devices AND ASSOCIATED CIRCUITRY [emphasis added] providing inputs to protective relays, station dc supply, and control circuitry

Voter	Entity	Segment	Vote	Comment
				associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices."
Response: Thank you for your comments. The change to insert the term "devices providing" was to improve clarity while also excluding voltage and current measuring devices that provide data exclusively to metering equipment as opposed to Protection Systems. The SDT agrees with the commenter that an appropriate maintenance activity is to ensure that the measured voltage and current values correctly make it to the relays. The maintenance activity is a part of the standard. The absence of this activity from the definition is not intended to lead one to believe that the activity is not important.				
Roger C Zaklukiewicz		8	Negative	The proposed rewording of the definition implies that the wiring from the current transformers and voltage transformers to the protective relay systems are independent of the protection system being tested and that separate maintenance standards will have to be established to test the integrity of the wiring and the Potential device and current transformer. The definition of the Protection System should not exclude the wiring and devices which generate the current and voltage sources to the protective relays.
Response: Thank you for your comments. The change to insert the term "devices providing" was to improve clarity while also excluding voltage and current measuring devices that provide data exclusively to metering equipment as opposed to Protection Systems. The SDT agrees with the commenter that an appropriate maintenance activity is to ensure that the measured voltage and current values correctly make it to the relays. The maintenance activity is a part of the standard. The absence of this activity from the definition is not intended to lead one to believe that the activity is not important.				
Jim R Stanton	SPS Consulting Group Inc.	8	Negative	The reference to "communication systems" should be deleted from the definition. It is confusing to Registered Entities who do not consider the circuits that connect components of a protection system to be a communication "system" such as a telephone system, postal service or computer network which is more properly called a communication system. Suggest changing it to "signal carrying circuitry."
Response: Thank you for your comments. The SDT believes that "Communication Systems" is a term that is generally well understood within the industry.				

Voter	Entity	Segment	Vote	Comment
Brock Ondayko	AEP Service Corp.	5	Negative	The term "station" should either be defined or removed from the definition, as it implies transmission and distribution assets while the term "plant" is used to define generation assets. It would suffice to simply refer to the "DC Supply". As written, the implementation plan only specifies a time frame for entities to update their documentation for PRC-005-1 and PRC-005-2 compliance. The implementation plan also needs to give entities a time frame to address any required changes to their documentation for other standards that use the term "Protection System", including but not limited to NUC-001-2, PER-005-1, PRC-001-1, etc.
Response: Thank you for your comments. The term 'station' was used because it could include both a substation and a generation station while at the same time excluded installations that were strictly communications repeater sites. As noted on the "Assessment of Impact of Proposed Modification to the Definition of "Protection System" which was posted with the first comment period, the SDT believes that the bulk of the implementation of the new definition will be regarding PRC-005 (generically) and that there will be very little implementation associated with the other standards that utilize this term.				
Paul B. Johnson	American Electric Power	1	Negative	1. The term "station" should either be defined or removed from the definition, as it implies transmission and distribution assets while the term "plant" is used to define generation assets. It would suffice to simply refer to the "DC Supply". As written, the implementation plan only specifies a time frame for entities to update their documentation for PRC-005-1 and PRC-005-2 compliance. The implementation plan also needs to give entities a time frame to address any required changes to their documentation for other standards that use the term "Protection System", including but not limited to NUC-001-2, PER-005-1, PRC-001-1, etc. we still support a "negative" ballot with the following comments: 2. The definition as drafted includes "Station dc supply." While this appears reasonable and innocuous, the term is unclear and could be construed by an auditor to include a lot of equipment and infrastructure not intended by the PSMT SDT. For example, station battery chargers are typically supplied by station auxiliary power transformers, which in turn are supplied by primary-voltage buswork, primary-voltage fuses, or primary-voltage circuit

Voter	Entity	Segment	Vote	Comment
				breakers. An auditor for either PRC-005 or any other Standard referencing "Protection System" could read that such primary-voltage equipment is part of the Protection System and therefore subject to certain requirements in either PRC-005 or any other Standard referencing Protection System. The definition as drafted includes "Communications systems necessary. . . ". Once again, this term appears innocuous, but it is actually unclear. For example, if a transfer-trip channel is carried on a microwave path, an auditor may decide that the entire microwave equipment, microwave building battery, and microwave building emergency generator are all part of the Protection System, and thus subject to requirements in either PRC-005 or other existing or future Standards that refer to Protection System Similar to the above two items, we are concerned about the inclusion of voltage and current-sensing "devices" in the Definition. As written, applicability can be inferred to the entire device and not merely its output quantities, not only for this Standard but any other that references a Protection System.
Response: Thank you for your comments. 1. The term 'station' was used because it could include both a substation and a generation station while at the same time excluded installations that were strictly communications repeater sites. As noted on the "Assessment of Impact of Proposed Modification to the Definition of "Protection System" which was posted with the first comment period, the SDT believes that the bulk of the implementation of the new definition will be regarding PRC-005 (generically) and that there will be very little implementation associated with the other standards that utilize this term. 2. The definition has been modified to specifically include battery chargers. As to your other comments, it appears that your comments apply more to the application of the definition within PRC-005-1 or PRC-005-2 than they do to the definition itself. Within the reference materials associated with PRC-005-2, the SDT advises that equipment associated with microwave systems is part of the communications system. The SDT believes that the proposed definition is less vague than the current definition on the issues you cite, and would improve the situation that you discuss from the current level.				
Peter T Yost	Consolidated Edison Co. of New York	3	Negative	1. There is not enough clarity on whether a Distribution Provider (DP) will be able to clearly identify which protection system components it does own and needs to maintain. Many DPs own and/or operate equipment identified in the existing or proposed definition. However, not all such equipment translates into a transmission Protection System. The definition needs clarification on when such equipment is a part of the transmission protection system.

Voter	Entity	Segment	Vote	Comment
				2. Also, the time provided for the first phase "at least six months" is too open ended and does not provide entities with a clear timeline. It is suggested that one year is appropriate for the first phase phasing out the second year in stages.
Response: Thank you for your comments. 1. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself. "When such equipment is part of the transmission protection system" is properly a matter to be resolved within the various standards that use this term. 2. The implementation period has been revised from six months to twelve months.				
Greg Lange	Public Utility District No. 2 of Grant County	3	Negative	These systems are not always maintained at the component level. ie. meggering from the relay input test switch through the cable and the CT. This has not closed all the issues around professional judgement (interpretations) that make us nervous when faced with the human element of an audit. We need more specificity to close that gap.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself.				
Silvia P Mitchell	Florida Power & Light Co.	6	Affirmative	This revision is better written.
Response: Thank you for your comments.				

Voter	Entity	Segment	Vote	Comment
Joseph G. DePoorter	Madison Gas and Electric Co.	4	Negative	Upon review of the updated proposed "Protection System" definition and its main use in describing PRC-005, which applies to BES Protective Systems, the definition needs to incorporate BES within it. Without BES used within the definition, it will be used to interpret every protection system that the industry uses. This is not the course that we wish to travel. Please note the following recommended definition: o BES Protective relays which respond to electrical quantities, o Communications systems necessary for correct operation of the BES protective functions, o Voltage and current sensing devices providing inputs to BES protective relays, o Battery and battery chargers that supply dc power to BES protective relays, communications, and control circuitry, and o Control circuitry associated with the BES protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comments. The station dc supply component type has been modified essentially as you suggest. As to your suggestion regarding inclusion of "BES' within the definition – this is properly an issue to address in the various standards that use this definition.				
Richard J. Mandes	Alabama Power Company	3	Affirmative	We agree that the definition provides clarity and will enhance the reliability of the Protection Systems to which it is applicable. However, we feel that there needs to be a direct linkage of the definition's effective date to the approval and implementation schedule of PRC-005-2. Since this new definition is directly linked to the proposed revised standard, it would be premature to make this definition effective prior to the effective date of the new standard.
Anthony L Wilson	Georgia Power Company	3	Affirmative	
Gwen S Frazier	Gulf Power Company	3	Affirmative	
Don Horsley	Mississippi Power	3	Affirmative	
Horace Stephen Williamson	Southern Company Services, Inc.	1	Affirmative	
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Jason L Marshall	Midwest ISO, Inc.	2	Abstain	We are abstaining because a number of our stakeholders have concerns regarding the definition of Protection System.
Response: Thank you for your comments. The SDT responded to the individual stakeholder comments submitted.				

Voter	Entity	Segment	Vote	Comment
Claudiu Cadar	GDS Associates, Inc.	1	Negative	We do not agree with inclusion of the trip coil. The trip coil is not a protective device; it does not sense voltage or current and operates based on a faulted condition. It is supplied the necessary input from the DC system which is based on protective relays signaling and contact operation. The trip coil is part of the circuit breaker; it is not separate equipment. Does this mean that the circuit breaker is now part of the protection system?
Response: Thank you for your comments. The current definition includes "DC Control Circuitry"; the SDT attempted to clearly define which of the many control circuits and the limit of the definition. While the current definition is vague, it can certainly include the trip coils and close coils and alarm circuits of the interrupting device. The SDT believes that the electrically-operated trip coils are an important part of the control circuitry.				
Anthony Jankowski	Wisconsin Energy Corp.	4	Negative	We Energies does not agree to the implementation plan proposed. While it makes common sense to proceed with R1 prior to proceeding with implementing R2, R3, and R4, the timeline to be compliant for R1 is too short. It will take a considerable amount of resources to migrate the maintenance plan from today's standard to the new standard in phase one. ATC recommends that time to develop and update the revised program be increased to at least one year followed by a transition time for the entity to collect all the necessary field data for the protection system within its first full cycle of testing. (In ATC's case would be 6 years) To address phase two, We Energies believes human and technological resources will be overburdened to implement this revised standard as written. The transition to implementing the new program will take another full testing cycle once the program has been updated. Increased documentation and obtaining additional resources to accomplish this will be challenging. Implementation of PRC-005-2 will impact We Energies in the following manner: a. Increase costs: double existing maintenance costs. b. Since there will be a doubling of human interaction (or more), it is expected that failures due to human error will increase, possibly proportionately. c. Breaker maintenance may need to be aligned with protection scheme testing, which will always contain elements that are include in the non-monitored table for 6 yr testing. d. We Energies is developing standards for redundant bus and transformer protection schemes. This would allow We Energies to

Voter	Entity	Segment	Vote	Comment
				test the protection packages without taking the equipment out of service. Further if one system fails, there is full redundancy available. With the current version of PRC-005-2, We Energies would need to take an outage to test the protection schemes for a transformer or a bus, there is not an incentive to install redundant schemes. We Energies is working with a condition based breaker maintenance program. This program's value would be greatly diminished under PRC-005-2 as currently written. Consideration also needs to be given for other NERC standards expected to be passed and in the implementation stage at the same time, such as the CIP standards.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. The SDT has responded to similar comments within the responses to ballot comments and the consideration of comments on the standard itself.				
Linda Horn	Wisconsin Electric Power Co.	5	Negative	We object strongly to the addition of the term "voltage and current sensing devices...". This revised definition will make it a requirement to perform actual tests on the voltage and current transformers. The previous definition was "voltage and current inputs to protective relays" and this is much preferred to allow the needed flexibility in maintenance practices.
James R. Keller	Wisconsin Electric Power Marketing	3	Negative	
Response: Thank you for your comments. The current definition of Protection System uses the term "voltage and current sensing devices". The current standard PRC-005-1 requires the entity to have a PSMP for those devices. The proposed revision PRC-005-2 would require minimum maintenance activities that verify other than an annual IR Scan of the voltage and current sensing devices. As there is no method listed in the standard, some of the process flexibility that you seek has been maintained.				
Brandy A Dunn	Western Area Power Administration	1	Affirmative	Western agrees with the revised definition of a Protection System and disagreese with the Implementation Plan under PRC-005-1. The definition implementation should be delayed until approval of PRC-005-2.
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give				

Voter	Entity	Segment	Vote	Comment
entities time to apply the new definition to PRC-005-1.				
Henry Delk, Jr.	SCE&G	1	Negative	While SCE&G believes the majority of the PRC-005-2 standard is ready to be affirmed there are still inconsistencies with areas of the standard that need to be corrected prior to approval. These inconsistencies are addressed in SCE&G's comments which have been submitted for the current draft of this standard.
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. Please see the response to your comments on the first draft of the standard.				
Richard J Kafka	Potomac Electric Power Co.	1	Affirmative	While voting in the affirmative, PHI feels the definition could be improved by adding and associated circuitry to the third item Voltage and current sensing devices and associated circuitry providing inputs to protective relays
Response: Thank you for your comments. The SDT agrees with the commenter of the importance of this as a maintenance activity and has attempted to capture relevant maintenance activities within the revised standard itself.				
David A. Lapinski	Consumers Energy	3	Negative	Without the context of draft PRC-005-2, the changes to this definition are difficult to understand and even more difficult to implement. We therefore strongly recommend that this definition NOT be approved independently from the draft of PRC-005-2, and that development of both the definition and the standard proceed as a single activity.
David Frank Ronk	Consumers Energy	4	Negative	
Response: Thank you for your comments. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
Gregory L Pieper	Xcel Energy, Inc.	1	Negative	Xcel Energy believes the standard still contains many aspects that are not clearly understood by entities, including what is needed to demonstrate a compliant PSMP. Comments have been submitted concurrently to NERC via the draft comment response form.
Michael Ibold	Xcel Energy, Inc.	3	Negative	
Response: Thank you for your comments. Your comments appear to be relative to the draft standard PRC-005-2, rather than the definition. The SDT had not completed the consideration of comments on the standard when the definition was re-posted. Please see the response to your comments on the first draft of				

Voter	Entity	Segment	Vote	Comment
the standard.				
James A Ziebarth	Y-W Electric Association, Inc.	4	Affirmative	Y-WEA thanks the SDT for clarifying what relays are and are not included in this definition.
Response: Thank you for your comments.				

Proposed Definition of Protection System:

Protection System –

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

Protection System Definition

The definition posted for the second ballot of Protection System reads as follows:

Protection System –

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply, and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

Based on stakeholder comments submitted with the second ballot, the drafting team made minor changes to the proposed definition as shown below:

Protection System –

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

Protection System Definition

The previously approved (Board of Trustees) definition of Protection System reads as follows:

Protection System: Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.

Proposed Changes to Board of Trustees Approved Version of Definition:

Protection System: Protective relays which respond to electrical quantities, ~~associated~~ communication systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays, station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery based ~~and DC~~ dc supply), and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

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Implementation Plan for the Revised Definition of Protection System

Prerequisite Approvals or Activities:

The implementation of the revised definition is not dependent upon any other activity.

Recommended Modifications to Already Approved Standards

The non-capitalized version of the term, "protection system" is used in the following approved standards:

- NUC-001-2 – Nuclear Plant Interface Coordination
- PER-005-1 – System Personnel Training
- PRC-001-1 – System Protection Coordination

The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.

Proposed Effective Date:

Each responsible entity (Distribution Provider that owns a transmission Protection System, Transmission Owner, and Generator Owner) shall modify its protection system maintenance and testing program description and basis document(s) (required in Requirement R1 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) as necessary to reflect the modified definition of 'Protection System' by the first day of the first calendar quarter twelve months following regulatory approvals and implement any additional maintenance and testing (required in Requirement R2 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) by the end of the first complete maintenance and testing cycle described in the entity's program description and basis document(s) following establishment of the program changes resulting from the revised definition.

The original definition of "Protection System" shall be retired at the same time the revised definition becomes effective.

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Comment Form for the definition of Protection System [Project 2007-17]

Please **DO NOT** use this form to submit comments on the proposed definition of "Protection System." Comments must be submitted by **October 12, 2010**. If you have questions please contact Al McMeekin at al.mcmeekin@nerc.net or by telephone at 803-530-1963.

Background Information:

A second ballot for the definition of "Protection System" was conducted from July 23 – August 2, 2010. There were numerous comments opposing balloting the definition separately from the definition; the NERC Board of Trustees directed that a revised definition be approved as quickly as possible to close a reliability gap.

Some commenters suggested the "station dc supply" portion of the definition be modified to specifically address battery chargers; the SDT modified the definition as suggested. The revised definition is shown below with the new language shown in red:

Protection System –

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

The SDT did not make any other modifications to the definition and did not make any modifications to the implementation plan following the second ballot. The implementation plan allows at least 12 months beyond the regulatory approval date for entities to implement the new definition.

1. Do you agree with the proposed definition of "Protection System?" If not, please provide specific suggestions for improvement.

   ☐ Yes

   ☐ No

   Comments:

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Standards Announcement
Successive Ballot Open
October 2-14, 2010

Available at: https://standards.nerc.net/CurrentBallots.aspx

Project 2007-17 Protection System Maintenance Definition
A successive ballot for the definition of "Protection System" is now open through **8 p.m. Eastern on October 14, 2010**.

Instructions
Members of the ballot pool associated with this project may log in and submit their votes from the following page: https://standards.nerc.net/CurrentBallots.aspx

The Standards Committee encourages all members of the ballot pool to review the consideration of comments for the previous ballot and the modifications that team made to the definition. In a successive ballot, votes are not carried forward from the previous ballot.

Transition from Reliability Standards Development Procedure Version 7 – to Standard Processes Manual
Under the Reliability Standards Development Procedure Version 7, consensus was built with successive formal comment periods, followed by a 30-day pre-ballot review, followed by an initial ballot, and then a recirculation ballot. The intent was to use stakeholder views submitted through the formal comment periods to achieve consensus, and then to confirm that consensus during the balloting. This process did not allow a drafting team to make any changes to a standard (or definition) between ballots, which incented teams to avoid making improvements once a standard (or definition) had gone through an initial ballot. If a team made a change between ballots, then the standard (or definition) was required to be posted for a new comment period and then another pre-ballot review and another initial ballot, and finally if there were no more changes made to the standard (or definition), a recirculation ballot was conducted to confirm consensus.

Under the new Standard Processes Manual, consensus is achieved through parallel comment and ballot periods. Successive comment and ballot periods are conducted until there is consensus – and then a recirculation ballot is conducted to confirm that consensus. There is no 30-day pre-ballot review period, and drafting teams are encouraged to make revisions to the standard between successive ballots to improve the quality of the standard (or definition).

Next Steps
Voting results will be posted and announced after the ballot window closes.

Project Background
When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given “priority.” The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

Project page: http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

Standards Process
The Standard Processes Manual contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

For more information or assistance, please contact Monica Benson, Standards Process Administrator, at monica.benson@nerc.net or at 609.452.8060.

North American Electric Reliability Corporation
116-390 Village Blvd.
Princeton, NJ 08540
609.452.8060 | www.nerc.com

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Standards Announcement

Successive Formal Comment Period Open
September 13 – October 12, 2010

Now available at:
http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

Project 2007-17: Protection System Maintenance and Testing

A formal comment period for the revised definition of "Protection System" is now open **until 8 p.m. Eastern on October 12, 2010.**

This is the fourth draft of the proposed definition. As envisioned, the definition, once approved, will apply to PRC-005-1 approximately twelve months following regulatory approval. The new definition will replace the existing definition of "protection system." The existing definition has some identified deficiencies that result in a reliability gap, where some protection system owners do not consider components such as battery chargers associated with protective functions as components of a protection system, and do not include the maintenance of these components in their protection system maintenance programs.

Transition from Reliability Standards Development Procedure Version 7 – to Standard Processes Manual

Under the Reliability Standards Development Procedure Version 7, consensus was built with successive formal comment periods, followed by a 30-day pre-ballot review, followed by an initial ballot, and then a recirculation ballot. The intent was to use stakeholder views submitted through the formal comment periods to achieve consensus, and then to confirm that consensus during the balloting. This process did not allow a drafting team to make any changes to a standard (or definition) between ballots, which incented teams to avoid making improvements once a standard (or definition) had gone through an initial ballot. If a team made a change between ballots, then the standard (or definition) was required to be posted for a new comment period and then another pre-ballot review and another initial ballot, and finally if there were no more changes made to the standard (or definition), a recirculation ballot was conducted to confirm consensus.

Under the new Standard Processes Manual, consensus is achieved through parallel comment and ballot periods. Successive comment and ballot periods are conducted until there is consensus – and then a recirculation ballot is conducted to confirm that consensus. There is no 30-day pre-ballot review period, and drafting teams are encouraged to make revisions to the standard between successive ballots to improve the quality of the standard (or definition).

Instructions

Please use this electronic form to submit comments. If you experience any difficulties in using the electronic form, please contact Monica Benson at monica.benson@nerc.net. An off-line, unofficial copy of the comment form is posted on the project page:

http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

Next Steps

During the last 10 days of the 30-day formal comment period a successive ballot will be conducted for 10 days. All members of the ballot pool must cast a new ballot – the votes and comments from the last ballot will not be carried over. The drafting team will consider all comments (those submitted with a comment form, and those submitted with a ballot) and will determine whether to make additional changes to the definition. The team will post its response to comments and, if the definition has only minor changes, will post the definition and conduct a 10-day recirculation ballot.

Project Background

When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given “priority.” The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.
Project page: http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

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Standards Announcement
Successive Ballot Results

Now available at: https://standards.nerc.net/Ballots.aspx

Project 2007-17 Protection System Maintenance Definition
A successive ballot for the definition of "Protection System" ended **on October 14, 2010**.

Successive Ballot Results
Voting statistics are listed below, and the Ballot Results Web page provides a link to the detailed results:

Quorum: 84.11%

Approval: 84.52 %

Since at least one negative ballot included a comment, these results are not final. Another ballot (either a successive ballot or a recirculation ballot) must be conducted.

Transition from Reliability Standards Development Procedure Version 7 – to Standard Processes Manual
Under the Reliability Standards Development Procedure Version 7, consensus was built with successive formal comment periods, followed by a 30-day pre-ballot review, followed by an initial ballot, and then a recirculation ballot. The intent was to use stakeholder views submitted through the formal comment periods to achieve consensus, and then to confirm that consensus during the balloting. This process did not allow a drafting team to make any changes to a standard (or definition) between ballots, which incented teams to avoid making improvements once a standard (or definition) had gone through an initial ballot. If a team made a change between ballots, then the standard (or definition) was required to be posted for a new comment period and then another pre-ballot review and another initial ballot, and finally if there were no more changes made to the standard (or definition), a recirculation ballot was conducted to confirm consensus.

Under the new Standard Processes Manual, consensus is achieved through parallel comment and ballot periods. Successive comment and ballot periods are conducted until there is consensus – and then a recirculation ballot is conducted to confirm that consensus. There is no 30-day pre-ballot review period, and drafting teams are encouraged to make revisions to the standard between successive ballots to improve the quality of the standard (or definition).

Next Steps
The drafting team will review the comments submitted with ballots and post its consideration of those comments.

Project Background

When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given “priority.” The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

Project Page: http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

Ballot Criteria

Approval requires both a (1) quorum, which is established by at least 75% of the members of the ballot pool submitting either an affirmative vote, a negative vote, or an abstention, and (2) a two-thirds majority of the weighted segment votes cast must be affirmative; the number of votes cast is the sum of affirmative and negative votes, excluding abstentions and non-responses. If there are no negative votes with reasons from the first (or successive) ballot, the results of that ballot shall stand. If, however, one or more members submit negative votes with reasons, another ballot shall be conducted. If the team makes significant changes to the definition, then another successive ballot must be conducted. If the team does not make any significant changes to the definition, then a final recirculation ballot is conducted.

Standards Process

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For more information or assistance, please contact Monica Benson at monica.benson@nerc.net.

Ballot Results	
Ballot Name:	Project 2007-17 Protection System Maintenance (Protection System definition)_in
Ballot Period:	10/2/2010 - 10/14/2010
Ballot Type:	Initial
Total # Votes:	270
Total Ballot Pool:	321
Quorum:	**84.11 % The Quorum has been reached**
Weighted Segment Vote:	84.52 %
Ballot Results:	**The standard will proceed to recirculation ballot.**

Summary of Ballot Results

Segment	Ballot Pool	Segment Weight	Affirmative # Votes	Affirmative Fraction	Negative # Votes	Negative Fraction	Abstain # Votes	No Vote
1 - Segment 1.	89	1	60	0.833	12	0.167	4	13
2 - Segment 2.	9	0.5	3	0.3	2	0.2	1	3
3 - Segment 3.	71	1	53	0.93	4	0.07	2	12
4 - Segment 4.	24	1	17	0.895	2	0.105	2	3
5 - Segment 5.	67	1	38	0.745	13	0.255	6	10
6 - Segment 6.	37	1	26	0.867	4	0.133	1	6
7 - Segment 7.	0	0	0	0	0	0	0	0
8 - Segment 8.	11	0.8	6	0.6	2	0.2	1	2
9 - Segment 9.	6	0.5	5	0.5	0	0	0	1
10 - Segment 10.	7	0.5	5	0.5	0	0	1	1
Totals	**321**	**7.3**	**213**	**6.17**	**39**	**1.13**	**18**	**51**

Individual Ballot Pool Results

Segment	Organization	Member	Ballot	Comments
1	Allegheny Power	Rodney Phillips	Affirmative	
1	Ameren Services	Kirit S. Shah	Affirmative	
1	American Electric Power	Paul B. Johnson	Negative	View
1	American Transmission Company, LLC	Jason Shaver	Affirmative	View
1	Arizona Public Service Co.	Robert D Smith	Affirmative	
1	Associated Electric Cooperative, Inc.	John Bussman	Affirmative	
1	Avista Corp.	Scott Kinney		

1	Baltimore Gas & Electric Company	John J. Moraski	Negative	View
1	BC Transmission Corporation	Gordon Rawlings	Affirmative	
1	Beaches Energy Services	Joseph S. Stonecipher	Affirmative	
1	Black Hills Corp	Eric Egge		
1	Bonneville Power Administration	Donald S. Watkins	Affirmative	
1	CenterPoint Energy	Paul Rocha	Negative	
1	Central Maine Power Company	Brian Conroy	Affirmative	
1	City of Vero Beach	Randall McCamish	Affirmative	
1	City Utilities of Springfield, Missouri	Jeff Knottek	Affirmative	
1	Clark Public Utilities	Jack Stamper		
1	Cleco Power LLC	Danny McDaniel	Affirmative	
1	Colorado Springs Utilities	Paul Morland	Negative	View
1	Commonwealth Edison Co.	Daniel Brotzman	Affirmative	
1	Consolidated Edison Co. of New York	Christopher L de Graffenried	Affirmative	
1	Dairyland Power Coop.	Robert W. Roddy	Negative	
1	Dayton Power & Light Co.	Hertzel Shamash	Affirmative	
1	Deseret Power	James Tucker	Affirmative	
1	Dominion Virginia Power	John K Loftis	Affirmative	
1	Duke Energy Carolina	Douglas E. Hils	Affirmative	
1	East Kentucky Power Coop.	George S. Carruba	Affirmative	
1	Empire District Electric Co.	Ralph Frederick Meyer	Affirmative	
1	Entergy Corporation	George R. Bartlett	Affirmative	
1	FirstEnergy Energy Delivery	Robert Martinko	Affirmative	View
1	Florida Keys Electric Cooperative Assoc.	Dennis Minton	Affirmative	
1	Gainesville Regional Utilities	Luther E. Fair	Affirmative	
1	GDS Associates, Inc.	Claudiu Cadar		
1	Georgia Transmission Corporation	Harold Taylor, II		
1	Great River Energy	Gordon Pietsch		
1	Hydro One Networks, Inc.	Ajay Garg	Affirmative	
1	Idaho Power Company	Ronald D. Schellberg	Affirmative	
1	International Transmission Company Holdings Corp	Michael Moltane		
1	Kansas City Power & Light Co.	Michael Gammon		
1	Keys Energy Services	Stan T. Rzad	Affirmative	
1	Lake Worth Utilities	Walt Gill	Affirmative	
1	Lakeland Electric	Larry E Watt	Affirmative	
1	Lincoln Electric System	Doug Bantam	Affirmative	
1	Long Island Power Authority	Robert Ganley	Affirmative	
1	Lower Colorado River Authority	Martyn Turner	Affirmative	
1	Manitoba Hydro	Michelle Rheault	Affirmative	
1	Metropolitan Water District of Southern California	Ernest Hahn	Abstain	
1	MidAmerican Energy Co.	Terry Harbour	Negative	View
1	Minnesota Power, Inc.	Randi Woodward	Affirmative	
1	National Grid	Saurabh Saksena	Affirmative	
1	Nebraska Public Power District	Richard L. Koch	Affirmative	View
1	New York Power Authority	Arnold J. Schuff		
1	Northeast Utilities	David H. Boguslawski	Affirmative	
1	NorthWestern Energy	John Canavan	Affirmative	
1	Ohio Valley Electric Corp.	Robert Mattey	Negative	
1	Oklahoma Gas and Electric Co.	Marvin E VanBebber	Abstain	
1	Omaha Public Power District	Douglas G Peterchuck	Negative	
1	Orlando Utilities Commission	Brad Chase	Affirmative	
1	Otter Tail Power Company	Lawrence R. Larson		
1	Pacific Gas and Electric Company	Chifong L. Thomas	Negative	View
1	PacifiCorp	Mark Sampson		
1	PECO Energy	Ronald Schloendorn	Affirmative	
1	Platte River Power Authority	John C. Collins	Affirmative	
1	Potomac Electric Power Co.	Richard J Kafka	Affirmative	
1	PowerSouth Energy Cooperative	Larry D. Avery	Negative	
1	PPL Electric Utilities Corp.	Brenda L Truhe	Affirmative	
1	Public Service Company of New Mexico	Laurie Williams	Abstain	
1	Public Service Electric and Gas Co.	Kenneth D. Brown	Affirmative	
1	Public Utility District No. 1 of Chelan County	Chad Bowman	Affirmative	
1	Puget Sound Energy, Inc.	Catherine Koch	Affirmative	
1	Sacramento Municipal Utility District	Tim Kelley	Affirmative	
1	Salt River Project	Robert Kondziolka	Affirmative	

1	Santee Cooper	Terry L. Blackwell	Affirmative	
1	SCE&G	Henry Delk, Jr.	Affirmative	
1	Seattle City Light	Pawel Krupa	Affirmative	View
1	South Texas Electric Cooperative	Richard McLeon	Affirmative	
1	Southern California Edison Co.	Dana Cabbell	Affirmative	
1	Southern Company Services, Inc.	Horace Stephen Williamson	Affirmative	
1	Southern Illinois Power Coop.	William G. Hutchison		
1	Southwest Transmission Cooperative, Inc.	James L. Jones	Abstain	
1	Southwestern Power Administration	Gary W Cox	Affirmative	
1	Sunflower Electric Power Corporation	Noman Lee Williams	Affirmative	
1	Tennessee Valley Authority	Larry Akens	Affirmative	
1	Tri-State G & T Association, Inc.	Keith V. Carman	Negative	View
1	Tucson Electric Power Co.	John Tolo		
1	United Illuminating Co.	Jonathan Appelbaum	Affirmative	
1	Westar Energy	Allen Klassen	Affirmative	
1	Western Area Power Administration	Brandy A Dunn	Negative	View
1	Xcel Energy, Inc.	Gregory L Pieper	Affirmative	
2	Alberta Electric System Operator	Mark B Thompson	Affirmative	
2	BC Transmission Corporation	Faramarz Amjadi		
2	Electric Reliability Council of Texas, Inc.	Chuck B Manning	Abstain	
2	Independent Electricity System Operator	Kim Warren	Affirmative	
2	ISO New England, Inc.	Kathleen Goodman	Negative	
2	Midwest ISO, Inc.	Jason L Marshall	Negative	View
2	New York Independent System Operator	Gregory Campoli		
2	PJM Interconnection, L.L.C.	Tom Bowe		
2	Southwest Power Pool	Charles H Yeung	Affirmative	
3	Alabama Power Company	Richard J. Mandes	Affirmative	
3	Allegheny Power	Bob Reeping	Affirmative	
3	Ameren Services	Mark Peters	Affirmative	
3	American Electric Power	Raj Rana		
3	Arizona Public Service Co.	Thomas R. Glock		
3	Atlantic City Electric Company	James V. Petrella	Affirmative	
3	BC Hydro and Power Authority	Pat G. Harrington	Affirmative	
3	Bonneville Power Administration	Rebecca Berdahl	Affirmative	
3	Central Lincoln PUD	Steve Alexanderson	Affirmative	
3	City of Bartow, Florida	Matt Culverhouse	Affirmative	
3	City of Clewiston	Lynne Mila	Affirmative	
3	City of Farmington	Linda R. Jacobson	Abstain	
3	City of Green Cove Springs	Gregg R Griffin	Affirmative	
3	City of Leesburg	Phil Janik	Affirmative	
3	ComEd	Bruce Krawczyk	Affirmative	
3	Consolidated Edison Co. of New York	Peter T Yost	Affirmative	
3	Consumers Energy	David A. Lapinski	Negative	View
3	Cowlitz County PUD	Russell A Noble	Affirmative	
3	Delmarva Power & Light Co.	Michael R. Mayer	Affirmative	
3	Detroit Edison Company	Kent Kujala		
3	Dominion Resources Services	Michael F Gildea	Affirmative	
3	Duke Energy Carolina	Henry Ernst-Jr		
3	East Kentucky Power Coop.	Sally Witt	Affirmative	
3	Entergy	Joel T Plessinger	Affirmative	
3	FirstEnergy Solutions	Kevin Querry	Affirmative	View
3	Florida Power Corporation	Lee Schuster	Affirmative	
3	Gainesville Regional Utilities	Kenneth Simmons	Affirmative	
3	Georgia Power Company	Anthony L Wilson	Affirmative	
3	Georgia System Operations Corporation	R Scott S. Barfield-McGinnis	Affirmative	
3	Great River Energy	Sam Kokkinen		
3	Gulf Power Company	Gwen S Frazier	Affirmative	
3	Hydro One Networks, Inc.	Michael D. Penstone	Affirmative	
3	JEA	Garry Baker		
3	Kansas City Power & Light Co.	Charles Locke		
3	Kissimmee Utility Authority	Gregory David Woessner	Affirmative	
3	Lakeland Electric	Mace Hunter	Affirmative	
3	Lincoln Electric System	Bruce Merrill	Affirmative	
3	Los Angeles Department of Water & Power	Kenneth Silver		
3	Louisville Gas and Electric Co.	Charles A. Freibert	Affirmative	
3	Manitoba Hydro	Greg C Parent	Affirmative	
3	MEAG Power	Steven Grego	Affirmative	

3	MidAmerican Energy Co.	Thomas C. Mielnik	Negative	View
3	Mississippi Power	Don Horsley	Affirmative	
3	Municipal Electric Authority of Georgia	Steven M. Jackson	Affirmative	
3	Muscatine Power & Water	John S Bos	Affirmative	
3	New York Power Authority	Marilyn Brown		
3	Niagara Mohawk (National Grid Company)	Michael Schiavone	Affirmative	
3	Northern Indiana Public Service Co.	William SeDoris	Affirmative	
3	Ocala Electric Utility	David T. Anderson	Affirmative	
3	Orlando Utilities Commission	Ballard Keith Mutters	Abstain	
3	PacifiCorp	John Apperson	Affirmative	
3	PECO Energy an Exelon Co.	Vincent J. Catania	Affirmative	
3	Platte River Power Authority	Terry L Baker	Affirmative	
3	Potomac Electric Power Co.	Robert Reuter	Affirmative	
3	Progress Energy Carolinas	Sam Waters	Affirmative	
3	Public Service Electric and Gas Co.	Jeffrey Mueller	Affirmative	
3	Public Utility District No. 1 of Chelan County	Kenneth R. Johnson	Affirmative	
3	Public Utility District No. 2 of Grant County	Greg Lange		
3	Sacramento Municipal Utility District	James Leigh-Kendall	Affirmative	
3	Salem Electric	Anthony Schacher	Affirmative	
3	Salt River Project	John T. Underhill	Affirmative	
3	San Diego Gas & Electric	Scott Peterson	Affirmative	View
3	Santee Cooper	Zack Dusenbury	Affirmative	
3	Seattle City Light	Dana Wheelock	Affirmative	View
3	Southern California Edison Co.	David Schiada	Affirmative	
3	Springfield Utility Board	Jeff Nelson	Affirmative	
3	Tampa Electric Co.	Ronald L Donahey		
3	Tri-State G & T Association, Inc.	Janelle Marriott	Negative	View
3	Wisconsin Electric Power Marketing	James R. Keller	Negative	View
3	Wisconsin Public Service Corp.	Gregory J Le Grave		
3	Xcel Energy, Inc.	Michael Ibold	Affirmative	
4	Alliant Energy Corp. Services, Inc.	Kenneth Goldsmith	Abstain	
4	American Municipal Power - Ohio	Kevin Koloini		
4	American Public Power Association	Allen Mosher	Abstain	
4	City of Clewiston	Kevin McCarthy	Affirmative	
4	City of New Smyrna Beach Utilities Commission	Timothy Beyrle	Affirmative	
4	Consumers Energy	David Frank Ronk	Negative	View
4	Cowlitz County PUD	Rick Syring	Affirmative	
4	Detroit Edison Company	Daniel Herring	Affirmative	
4	Florida Municipal Power Agency	Frank Gaffney	Affirmative	
4	Fort Pierce Utilities Authority	Thomas W. Richards	Affirmative	
4	Georgia System Operations Corporation	Guy Andrews	Affirmative	
4	Illinois Municipal Electric Agency	Bob C. Thomas	Affirmative	
4	Integrys Energy Group, Inc.	Christopher Plante	Affirmative	
4	Madison Gas and Electric Co.	Joseph G. DePoorter	Affirmative	View
4	Ohio Edison Company	Douglas Hohlbaugh	Affirmative	View
4	Old Dominion Electric Coop.	Mark Ringhausen	Affirmative	
4	Public Utility District No. 1 of Douglas County	Henry E. LuBean	Affirmative	
4	Public Utility District No. 1 of Snohomish County	John D. Martinsen	Affirmative	
4	Sacramento Municipal Utility District	Mike Ramirez	Affirmative	
4	Seattle City Light	Hao Li	Affirmative	View
4	Seminole Electric Cooperative, Inc.	Steven R Wallace		
4	South Mississippi Electric Power Association	Steve McElhaney		
4	Wisconsin Energy Corp.	Anthony Jankowski	Negative	View
4	Y-W Electric Association, Inc.	James A Ziebarth	Affirmative	
5	AEP Service Corp.	Brock Ondayko	Negative	View
5	Amerenue	Sam Dwyer	Affirmative	
5	APS	Mel Jensen		
5	Avista Corp.	Edward F. Groce	Abstain	
5	Black Hills Corp	George Tatar	Abstain	
5	Bonneville Power Administration	Francis J. Halpin	Affirmative	
5	Chelan County Public Utility District #1	John Yale	Affirmative	
5	City of Grand Island	Jeff Mead	Affirmative	
5	City of Tallahassee	Alan Gale	Abstain	
5	City Water, Light & Power of Springfield	Karl E. Kohlrus	Affirmative	
5	Consolidated Edison Co. of New York	Wilket (Jack) Ng	Affirmative	

5	Constellation Power Source Generation, Inc.	Amir Y Hammad	Negative	View
5	Consumers Energy	James B Lewis	Negative	View
5	Cowlitz County PUD	Bob Essex	Affirmative	
5	Dominion Resources, Inc.	Mike Garton	Affirmative	
5	Duke Energy	Robert Smith	Affirmative	
5	Dynegy Inc.	Dan Roethemeyer	Affirmative	View
5	East Kentucky Power Coop.	Stephen Ricker	Affirmative	
5	Energy Northwest - Columbia Generating Station	Doug Ramey	Affirmative	
5	Entegra Power Group, LLC	Kenneth Parker	Affirmative	
5	Entergy Corporation	Stanley M Jaskot	Affirmative	
5	FirstEnergy Solutions	Kenneth Dresner		
5	Florida Municipal Power Agency	David Schumann	Affirmative	
5	Green Country Energy	Greg Froehling	Affirmative	
5	Horizon Wind Energy	Brent Hebert	Affirmative	
5	Indeck Energy Services, Inc.	Rex A Roehl	Negative	View
5	JEA	Donald Gilbert	Abstain	
5	Kansas City Power & Light Co.	Scott Heidtbrink		
5	Kissimmee Utility Authority	Mike Blough	Affirmative	
5	Lakeland Electric	Thomas J Trickey	Affirmative	
5	Liberty Electric Power LLC	Daniel Duff	Negative	View
5	Lincoln Electric System	Dennis Florom	Affirmative	
5	Louisville Gas and Electric Co.	Charlie Martin	Affirmative	
5	Luminant Generation Company LLC	Mike Laney	Affirmative	
5	Manitoba Hydro	Mark Aikens		
5	Massachusetts Municipal Wholesale Electric Company	David Gordon	Affirmative	
5	New Harquahala Generating Co. LLC	Nicholas Q Hayes		
5	New York Power Authority	Gerald Mannarino		
5	Northern Indiana Public Service Co.	Michael K Wilkerson	Affirmative	
5	Otter Tail Power Company	Stacie Hebert	Abstain	
5	PacifiCorp	Sandra L. Shaffer	Affirmative	
5	Portland General Electric Co.	Gary L Tingley		
5	PowerSouth Energy Cooperative	Tim Hattaway	Affirmative	
5	PPL Generation LLC	Mark A Heimbach		
5	Progress Energy Carolinas	Wayne Lewis	Affirmative	
5	PSEG Power LLC	David Murray		
5	Public Utility District No. 1 of Lewis County	Steven Grega	Negative	View
5	Reedy Creek Energy Services	Bernie Budnik	Negative	
5	RRI Energy	Thomas J. Bradish	Negative	View
5	Sacramento Municipal Utility District	Bethany Wright	Affirmative	
5	Salt River Project	Glen Reeves	Affirmative	
5	San Diego Gas & Electric	Daniel Baerman	Abstain	
5	Seattle City Light	Michael J. Haynes	Affirmative	View
5	Seminole Electric Cooperative, Inc.	Brenda K. Atkins		
5	South Carolina Electric & Gas Co.	Richard Jones	Affirmative	
5	South Mississippi Electric Power Association	Jerry W Johnson	Affirmative	
5	Southern Company Generation	William D Shultz	Affirmative	
5	Tampa Electric Co.	RJames Rocha	Affirmative	
5	Tenaska, Inc.	Scott M. Helyer	Negative	
5	Tennessee Valley Authority	George T. Ballew	Affirmative	
5	TransAlta Centralia Generation, LLC	Joanna Luong-Tran	Negative	View
5	Tri-State G & T Association, Inc.	Barry Ingold	Negative	
5	U.S. Army Corps of Engineers Northwestern Division	Karl Bryan	Affirmative	
5	U.S. Bureau of Reclamation	Martin Bauer P.E.	Negative	View
5	Wisconsin Electric Power Co.	Linda Horn	Negative	View
5	Wisconsin Public Service Corp.	Leonard Rentmeester	Affirmative	
5	Xcel Energy, Inc.	Liam Noailles	Affirmative	
6	AEP Marketing	Edward P. Cox	Negative	View
6	Ameren Energy Marketing Co.	Jennifer Richardson	Affirmative	
6	Bonneville Power Administration	Brenda S. Anderson	Affirmative	
6	Cleco Power LLC	Matthew D Cripps	Affirmative	
6	Consolidated Edison Co. of New York	Nickesha P Carrol		
6	Constellation Energy Commodities Group	Brenda Powell	Negative	View
6	Dominion Resources, Inc.	Louis S Slade	Affirmative	
6	Duke Energy Carolina	Walter Yeager	Affirmative	
6	Entergy Services, Inc.	Terri F Benoit	Affirmative	

6	Eugene Water & Electric Board	Daniel Mark Bedbury	Affirmative	
6	Exelon Power Team	Pulin Shah	Affirmative	
6	FirstEnergy Solutions	Mark S Travaglianti	Affirmative	View
6	Florida Municipal Power Agency	Richard L. Montgomery	Affirmative	
6	Florida Municipal Power Pool	Thomas E Washburn	Affirmative	
6	Florida Power & Light Co.	Silvia P Mitchell	Affirmative	
6	Great River Energy	Donna Stephenson		
6	Kansas City Power & Light Co.	Thomas Saitta		
6	Lakeland Electric	Paul Shipps	Affirmative	
6	Lincoln Electric System	Eric Ruskamp	Affirmative	
6	Louisville Gas and Electric Co.	Daryn Barker		
6	Luminant Energy	Brad Jones	Affirmative	
6	Manitoba Hydro	Daniel Prowse	Affirmative	
6	New York Power Authority	Thomas Papadopoulos		
6	Northern Indiana Public Service Co.	Joseph O'Brien	Affirmative	
6	Omaha Public Power District	David Ried	Negative	
6	OTP Wholesale Marketing	Bruce Glorvigen	Affirmative	
6	Progress Energy	James Eckelkamp	Affirmative	
6	PSEG Energy Resources & Trade LLC	James D. Hebson	Affirmative	
6	Public Utility District No. 1 of Chelan County	Hugh A. Owen	Abstain	
6	RRI Energy	Trent Carlson	Negative	View
6	Santee Cooper	Suzanne Ritter	Affirmative	
6	Seattle City Light	Dennis Sismaet	Affirmative	View
6	Seminole Electric Cooperative, Inc.	Trudy S. Novak		
6	South Carolina Electric & Gas Co.	Matt H Bullard	Affirmative	
6	Tennessee Valley Authority	Marjorie S. Parsons	Affirmative	
6	Western Area Power Administration - UGP Marketing	John Stonebarger	Affirmative	
6	Xcel Energy, Inc.	David F. Lemmons	Affirmative	
8		James A Maenner	Affirmative	
8		Roger C Zaklukiewicz	Affirmative	
8		Kristina M. Loudermilk		
8		Merle Ashton	Affirmative	
8	Ascendant Energy Services, LLC	Raymond Tran	Affirmative	
8	JDRJC Associates	Jim D. Cyrulewski	Affirmative	
8	Pacific Northwest Generating Cooperative	Margaret Ryan	Abstain	
8	Power Energy Group LLC	Peggy Abbadini		
8	SPS Consulting Group Inc.	Jim R Stanton	Negative	View
8	Utility Services, Inc.	Brian Evans-Mongeon	Negative	View
8	Volkmann Consulting, Inc.	Terry Volkmann	Affirmative	
9	California Energy Commission	William Mitchell Chamberlain	Affirmative	View
9	Commonwealth of Massachusetts Department of Public Utilities	Donald E. Nelson	Affirmative	
9	National Association of Regulatory Utility Commissioners	Diane J. Barney		
9	Oregon Public Utility Commission	Jerome Murray	Affirmative	View
9	Public Service Commission of South Carolina	Philip Riley	Affirmative	
9	Utah Public Service Commission	Ric Campbell	Affirmative	
10	Florida Reliability Coordinating Council	Linda Campbell	Abstain	
10	Midwest Reliability Organization	Dan R. Schoenecker	Affirmative	View
10	New York State Reliability Council	Alan Adamson	Affirmative	
10	Northeast Power Coordinating Council, Inc.	Guy V. Zito	Affirmative	
10	ReliabilityFirst Corporation	Jacquie Smith		
10	SERC Reliability Corporation	Carter B Edge	Affirmative	
10	Western Electricity Coordinating Council	Louise McCarren	Affirmative	View

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on Third Ballot — Project 2007-17 Protection System Maintenance (Protection System definition)

Dates of Third Ballot: 10/2/10 - 10/14/10

Summary: A successive ballot of the definition of Protection System was conducted from October 2-14, 2010 and achieved a quorum and an overall weighted segment approval of 84.52%.

Numerous balloters confused the definition with its applicability in various standards. Several balloters questioned the applicability of this defined term in PER-005 and the SDT modified the Implementation Plan for the definition to remove the reference to PER-005.

Several balloters used the ballot period as a forum to show displeasure with the NERC and Regional BES definitions. Modifying the definition of Bulk Electric System is outside the scope of this drafting team.

Some balloters made suggestions to modify various portions of the definition, however most balloters supported the definition as posted and the drafting team did not adopt any suggestions for further modifications to the definition.

Several balloters opposed this ballot because they felt the definition of Protection System should not have been balloted separately from the draft standard PRC-005-2. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given “priority.” To close this reliability gap the BOT directed that the revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan allows entities at least 12 months to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.

Segment	Entity	Member	Ballot	Comments
1 5	American Electric Power AEP Service Corp.	Paul B. Johnson Brock Ondayko	Negative	1. This change in definition needs to occur concurrently with other related projects (PRC-005-2). Neither the SDT nor the SC should establish a practice of making changes to definitions outside the parameters of changes to standards. This will introduce opportunities for confusion and does not provide the appropriate signals to the Registered Entities to adjust their programs and make the appropriate

Segment	Entity	Member	Ballot	Comments
6	AEP Marketing	Edward P. Cox		changes. If this has to be done faster than the pace of the current PRC-005-2 project, we suggest it still be paired with that project, but a smaller scope be considered to allow for this to pass quickly as possible and then the remaining work can be accomplished in PRC-005-3. 2. We suggest that the SDT consider the creation of sub-definitions opposed to crafting a single term for complex and diverse components that could make up the Protection System. As it stands, AEP cannot support this as it still does not remove the degree of ambiguity that could result in interpretation challenges during later enforcement and monitoring activities. We understand the urgency to make progress; however, the deliverables of this team can have significant collateral impacts in the compliance process. 3. The bullet for Protective relays should be further clarified with the addition of applied on or designed to provide protection for the BES that responds to the electrical fault or disturbance conditions. 4. Below are the comments that were provided in the second draft that were not adequately addressed in the consideration of the comments. A. The definition as drafted includes "Station dc supply." While this appears reasonable and innocuous, the term is unclear and could be construed by an auditor to include a lot of equipment and infrastructure not intended by the PSMT SDT. For example, station battery chargers are typically supplied by station auxiliary power transformers, which in turn are supplied by primary-voltage bus work, primary-voltage fuses, or primary-voltage circuit breakers. An auditor for either PRC-005 or any other Standard referencing "Protection System" could read that such primary-voltage equipment is part of the Protection System and therefore subject to certain requirements in either PRC-005 or any other Standard referencing Protection System. B. The definition as drafted includes "Communications systems necessary. . . ". Once again, this term appears innocuous, but it is

Segment	Entity	Member	Ballot	Comments
				actually unclear. For example, if a transfer-trip channel is carried on a microwave path, an auditor may decide that the entire microwave equipment, microwave building battery, and microwave building emergency generator are all part of the Protection System, and thus subject to requirements in either PRC-005 or other existing or future Standards that refer to Protection System. AEP recommends that the term be phrased "communications paths" opposed to "communications systems". C. Similar to the above two items, we are concerned about the inclusion of voltage and current-sensing "devices" in the Definition. As written, applicability can be inferred to the entire device and not merely its output quantities, not only for this Standard but any other that references a Protection System. AEP recommends the phrase "circuitry from voltage and current-sensing devices providing inputs to protective relays" instead of "voltage and current-sensing devices providing inputs to protective relays."
Response: When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1. 2. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry. 3. The SDT believes these questions are not within the scope of Project 2007-17 and should be addressed by the Regional Entities. 4A. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry. The definition of Protection System with regards to dc supply has been modified and now reads: Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply). 4B. The SDT believes your comment pertains to standards and requirements, and not the definition of Protection System. 4C. The SDT believes the current draft of the definition as balloted is better supported by industry.				

Segment	Entity	Member	Ballot	Comments
1	Baltimore Gas & Electric Company	John J. Moraski	Negative	The definition can be read to imply an obligation to test PTs and CTs in a way that exceeds the apparent intention of the SDT as expressed in the FAQs. The definition should be constructed so as to present no conflict with idea that the standard can be met by verifying the correctness of signal delivered from PTs and CTs to protective relays. Suggestive language included with the previous ballot --- Protection System: Protective relays which respond to electrical quantities, communication systems necessary for correct operation of protective functions, voltage and current sensing device output circuits and the associated circuits to the inputs of protective relays, station dc supply, and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: The SDT believes your comment is aimed at revising the definition so that it achieves a particular outcome when applied to specific requirements in the proposed PRC-005. The team is trying to develop a definition that would be applicable for use in several standards, and does not want to make modifications to the definition that would limit the term's applicability.				
1	Colorado Springs Utilities	Paul Morland	Negative	CSU feels that battery chargers should not be included in the "Protection System" definition based on the following: Battery chargers are not a single point of immediate failure. As long as real-time station battery monitoring is provided, a reliable protection system will be maintained.
Response: When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
1 3 6	FirstEnergy Energy Delivery FirstEnergy Solutions FirstEnergy Solutions	Robert Martinko Kevin Querry Mark S Travaglianti	Affirmative	FirstEnergy supports the definition and thanks the drafting team for incorporating our suggestion for clarification of the phrase "station dc supply".

Segment	Entity	Member	Ballot	Comments
4	Ohio Edison Company	Douglas Hohlbaugh		
Response: The SDT appreciates your support.				
1	MidAmerican Energy Co.	Terry Harbour	Negative	The drafting team did not properly address previous comments to include BES references in each PRC-005 sub bullet definitions and left "DC system" wording in the definition with only a comment in parentheses. The Protection System definition affects multiple standards and must stand alone across those standards. Therefore: 1. BES references are still needed in each sub bullet definition to eliminate ambiguity and to create clearly auditable requirements, meeting a basic standards drafting principal being requested both by FERC and the industry. 2. "DC system" remains a wide open definition. Because regulators and auditors are auditing to "zero" defect requirements and imposing their own interpretations, only specific wording is acceptable. The term "DC system" needs to be replaced with explicit pieces of equipment such as "batteries, battery chargers, and AC / DC converters". To be a credible audit process, both the auditor and audited entity must have a clear understanding of what is being audited. DC system can be interpreted in many ways by an entity or auditor and is not an acceptable term. Further, BES references are needed to create clear and auditable boundaries for this definition.
Response: The SDT believes your comment is aimed at revising the definition so that it achieves a particular outcome when applied to specific requirements in the proposed PRC-005. The team is trying to develop a definition that would be applicable for use in several standards, and does not want to make modifications to the definition that would limit the term's applicability.				

Segment	Entity	Member	Ballot	Comments
1	Nebraska Public Power District	Richard L. Koch	Affirmative	1. Please provide the reasoning for including the battery chargers. Where do you draw the line of what is included. For example, should the panel providing power to the chargers be included? 2. Better clarification is needed when defining the DC control circuit. The trip coils are identified on one end of the circuit but nothing is identified upstream of the trip coils. For example, control switches, indicators, auxiliary relays, power supply breakers, etc.
Response: 1. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." The definition of Protection System with regards to dc supply has been modified and now reads: Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply). The SDT believes this clearly limits the dc supply. 2. The SDT believes the balloted definition includes all the control circuitry essential for the Protection System to function properly.				
1	Pacific Gas and Electric Company	Chifong L. Thomas	Negative	We disagree with the drafting team response to comments that the term BES should be included only in the standard. It is an essential part of the definition as it pertains to the purpose of NERC Standards. As a result we have changed our vote to negative. We view the basic intent of this definition is to identify what protective systems in facilities are to be utilized to protect the BES from two primary troubles 1) minimize interruption of the flow of electrical power from one portion of the BES to another, and 2) to prevent the propagation of BES trouble from one portion of the BES to another. While we agree that protection systems for all transmission related components can be adequately limited in scope by utilizing "electrical quantities", we do not feel that it is adequate for generating facilities. There are multitudes of elements in generating facilities that can remove the facility from service and impact the power flow from the facility to other portions of the BES. The efforts utilized thus far demonstrate that it is not desirable or realistically possible to address all devices from an oversight point of view and that the current definition which discriminates solely with the qualifier of "electrical quantities" is too broad and leaves much open to interpretation to define what types of protection are included in the definition. The definition, as it currently reads, leaves many protective devices to the owner/operator to manage for

Segment	Entity	Member	Ballot	Comments
				maximum reliability of the generating facility. In the interest of clarity the definition should limit the scope for protective relays to those relays designed to prevent the propagation of trouble from one portion of the BES to another. We recommend changing the proposed definition to read as follows: A control system designed to detect electrical faults or abnormal conditions in the power system and initiate corrective action(s). A protection system consists of the following components: 1. Protective relays which protect: a) Transmission BES elements, including generating facility step up transformers, and respond to power system electrical quantities such as voltage and current, b) Generating facilities by responding to power system electrical quantities, such as voltage and current, and are designed to protect against potential problems in the BES on the high side of the generator step up transformer. 2. Communications systems necessary for correct operation of protective functions, 3. Voltage and current sensing devices which transform high level power system quantities to low level inputs for protective relays, and the associated circuitry to the inputs for protective relays. 4. Station DC supply associated with protective relay power supplies and control functions (including station batteries, battery chargers, and non-battery-based DC supply), and 5. Control circuitry associated with protective relay functions (including auxiliary relays) through the trip coil(s) of the circuit breakers or other interrupting devices.
Response: The SDT believes your comment is aimed at revising the definition so that it achieves a particular outcome when applied to specific requirements in the proposed PRC-005. The team is trying to develop a definition that would be applicable for use in several standards, and does not want to make modifications to the definition that would limit the term's applicability. The applicability of the definition of Protection System will be addressed in the various standards which utilize the definition. The SDT believes the current draft of the definition as balloted is better supported by industry.				
1 3 4 5	Seattle City Light	Pawel Krupa Dana Wheelock Hao Li Michael J. Haynes	Affirmative	Seattle supports this definition with the understanding that issues that have been previously addressed through comment will be considered during the Standard development process.

Segment	Entity	Member	Ballot	Comments
6		Dennis Sismaet		
Response: The SDT appreciates your support.				
1 3	Tri-State G & T Association, Inc.	Keith V. Carman Janelle Marriott	Negative	2nd bullet - Add communication-aided before protective functions. We think that this is important because you can have correct operation of protective functions without the communication-aided tripping functions operating correctly, especially with POTT or DCUB schemes. 5th bullet - replace through with including. We think that the phrase through the trip coil could be misinterpreted to mean protective functions that cause current to flow through the trip coil rather than the inclusive meaning such as from A through Z. If the intent of the drafting team is to exclude the trip coil, then we think it should be changed to control circuitry associated with protective functions required to operate the trip coil(s) of the circuit breakers or other interrupting devices.
Response: The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.				

Segment	Entity	Member	Ballot	Comments
1	Western Area Power Administration	Brandy A Dunn	Negative	The term "protection functions" is ambiguous as it is not related to the protection function associated with the protective relays. There are other protection functions not associated with protective relays that respond to electrical quantities. The language for Communication systems should be changed to remove the ambiguity. The following change would be clear, "Communication system necessary for the correct operation of the protective relays" The input to the relays is from voltage and current sensing devices through their respective circuits. Since the definition for protective relays separates the term "control circuitry" associated with protective relays, it is clear that protective relays do not also include the "control circuitry". By the same token, voltage and current sensing devices do not include their related circuits. The definition for voltage and current sensing devices should be revised to include the term "circuits". The following language change would serve make it clear: "Voltage and current sensing devices and their respective circuits providing inputs protective relays,".
5	U.S. Bureau of Reclamation	Martin Bauer P.E.	Negative	The term "protection functions" is ambiguous as it is not related to the protection function associated with the protective relays. There are other protection functions not associated with protective relays that respond to electrical quantities. The language for Communication systems should be changed to remove the ambiguity. The following change would be clear, "Communication system necessary for the correct operation of the protective relays" The input to the relays is from voltage and current sensing devices through their respective circuits. Since the definition for protective relays separates the term "control circuitry" associated with protective relays, it is clear that protective relays do not also include the "control circuitry". By the same token, voltage and current sensing devices do not include their related circuits. The definition for voltage and current sensing devices should be revised to include the term "circuits". The following language change would serve make it clear: "Voltage and current sensing devices and their respective circuits providing correct inputs to protective relays."

Segment	Entity	Member	Ballot	Comments
Response: The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.				
2	Midwest ISO, Inc.	Jason L Marshall	Negative	We disagree with the implementation plan. The implementation plan calls for capitalizing protection system in NUC-001-2 and PER-005-1. Because Protection System had been included in the NERC Glossary of Terms before the development of these standards, we believe the drafting teams would have capitalized those terms in these standards if they had intended for the Protection System definition to apply. Furthermore, we believe the use of protection system PER-005-1 was actually intended to be special protection systems or remedial actions schemes. To capitalize protection system in PER-005-1 will fundamentally alter the requirement in which it is contained.
Response: The SDT agrees and will revise the Implementation Plan to remove PER-005 from the list of standards to be modified. However, the SDT believes the term Protection System should be capitalized as described in the Implementation Plan for NUC-001-2.				
3 4 5	Consumers Energy	David A. Lapinski David Frank Ronk James B Lewis	Negative	We understand that this posting is intended to address perceived flaws in the currently approved definition. However, since this change, if approved, is likely to result in changes to an entity's PRC-005-1 maintenance program, we feel that it is inappropriate to approve this definition without simultaneous approval of the revised PRC-005-2 which will clarify the related changes to maintenance programs.
Response: When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.				
3	MidAmerican Energy Co.	Thomas C. Mielnik	Negative	BES references are needed in each sub bullet definition to eliminate ambiguity and to create clearly auditable requirements. The term "DC system" needs to be replaced with explicit pieces of equipment such as "batteries, battery chargers, and AC / DC converters".
Response: The SDT believes these comments relative to BES are not within the scope of Project 2007-17 and should be addressed by the Regional Entities; and that the current draft of the definition as balloted is clear, concise, and contains the specific dc systems equipment you mention.				

Segment	Entity	Member	Ballot	Comments
3	San Diego Gas & Electric	Scott Peterson	Affirmative	SDG&E believes that the following changes should be incorporated. Third item: DC supply sources affecting the "Protection System" (including station batteries, battery chargers, and non-battery-based dc supply), and SDG&E also believe that a definition of non-battery-based dc supply should be included to avoid confusion and recommend the following: "The inverter or rectifier in the circuit, dependent upon how the end use equipment is designed. Uninterruptible power supply (UPS) such as on-line, line-interactive or standby that some of the protection system could be on."
Response: The SDT appreciates your support, and believes the current draft of the definition as balloted is clear, concise, and supported by industry. The term "non-battery-based dc supply" is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.				
3 4 5	Wisconsin Electric Power Marketing Wisconsin Energy Corp. Wisconsin Electric Power Co.	James R. Keller Anthony Jankowski Linda Horn	Negative	1. The Protection System definition needs to indicate that the listed items after relays are intended to be associated with relays. As written, most of the items apply to undefined "protective functions". The Implementation Plan's change to PER-005-1 R3.1 restricts where R3.1 applies. For example, changing "protection systems" to "Protection Systems" will exclude an SPS that does not operate relays. Replace term "voltage & current sensing devices" with "voltage & current sensing inputs to protective relays". 2. Remove the battery chargers from the definition and make reference to station batteries only. There needs to be improved coordination between proposed changes and definitions and the associated proposed changes and testing.
Response: 1. The drafting team does not believe that the additional language is needed in the definition. The SDT agrees with the comment on PER-005 and will revise the Implementation Plan to remove PER-005 from the list of standards to be modified. 2. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.				

Segment	Entity	Member	Ballot	Comments
4	Madison Gas and Electric Co.	Joseph G. DePoorter	Affirmative	Believe that Communication systems necessary for correct operation of protective "relay" functions be considered as an enhancement to the definition. This would also need to be added within the Station dc supply and Control circuitry bullets. This will provide clarity to exactly what the definition is describing.
Response: The SDT appreciates your support. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.				
5	Constellation Power Source Generation, Inc.	Amir Y Hammad	Negative	Constellation has previously voted against these revised definitions because as written, it implies that the testing of PTs and CTs in PRC-005 is required. This latest proposal is no different. Constellation agrees with the SDT in that current and voltage sensing devices are an important aspect of the Protection System. However, by including PTs and CTs in the definition, auditors have been interpreting that as stating that dielectric testing and other tests are necessary on them. This does not seem to be the intention of the SDT. The intention of the SDT seems to be to verify that the sensing devices are delivering acceptable signals to relays. Table 1 a of the PRC-005-2 standard includes: Voltage & Current Sensing Devices / 12 Calendar Years / Verify proper functioning of the current and voltage circuit inputs from the voltage and current sensing devices to the protective relays. The FAQ for PRC-005-2 is even clearer in stating that ensuring the protection system is receiving the expected values from current and voltage sensing devices. But neither the originally revised or newly revised definitions carry that implication very well. The definitions are still including the devices themselves and not their outputs. To make the definition less ambiguous with PTs and CTs, Constellation proposes the following change in the definition: Voltage and current sensing devices providing inputs to protective relays to; Voltage and current sensing device output circuits and the associated circuits to the inputs of protective relays.

Segment	Entity	Member	Ballot	Comments
6	Constellation Energy Commodities Group	Brenda Powell	Negative	Constellation has previously voted against these revised definitions because as written, it implies that the testing of PTs and CTs in PRC-005 is required. This latest proposal is no different. Constellation agrees with the SDT in that current and voltage sensing devices are an important aspect of the Protection System. However, by including PTs and CTs in the definition, auditors have been interpreting that as stating that dielectric testing and other tests are necessary on them. This does not seem to be the intention of the SDT. The intention of the SDT seems to be to verify that the sensing devices are delivering acceptable signals to relays. Table 1 a of the PRC-005-2 standard includes: Voltage & Current Sensing Devices / 12 Calendar Years / Verify proper functioning of the current and voltage circuit inputs from the voltage and current sensing devices to the protective relays. The FAQ for PRC-005-2 is even clearer in stating that ensuring the protection system is receiving the expected values from current and voltage sensing devices. The definitions are still including the devices themselves and not their outputs. To make the definition less ambiguous with PTs and CTs, Constellation proposes the following change in the definition: Voltage and current sensing devices providing inputs to protective relays to; Voltage and current sensing device output circuits and the associated circuits to the inputs of protective relays.
Response: The SDT believes your comment is aimed at revising the definition so that it achieves a particular outcome when applied to specific requirements in the proposed PRC-005. The team is trying to develop a definition that would be applicable for use in several standards, and does not want to make modifications to the definition that would limit the term's applicability.				
5	Dynegy Inc.	Dan Roethemeyer	Affirmative	Please clarify "non-battery-based dc supply". It is vague.
Response: The SDT appreciates your support, and believes the current draft of the definition as balloted is clear, concise, and supported by industry. The term "non-battery-based dc supply" is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.				

Segment	Entity	Member	Ballot	Comments
5	Indeck Energy Services, Inc.	Rex A Roehl	Negative	Neither batteries nor battery chargers are part of protection systems. They may be included in protection system maintenance procedures, but are not part of a protection system. Similarly, current and voltage measuring devices that are used for metering or monitoring and not exclusively for protection, are not part of the protection system, but may be included in protection system maintenance. THE SDT seems to have tried to incorporate some of the PRC standards with this definition rather than focusing on the one element being defined.
Response: When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now.				
5	Liberty Electric Power LLC	Daniel Duff	Negative	Battery chargers are not protection system elements. This part of the definition should be redacted.
Response: When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now.				
5	Public Utility District No. 1 of Lewis County	Steven Grega	Negative	Do not support the expanded definition of the protection system. Battery chargers are not part of the protection system.
Response: : When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now.				

Segment	Entity	Member	Ballot	Comments
5 6	RRI Energy	Thomas J. Bradish Trent Carlson	Negative	It is not appropriate to define the battery or chargers as protection system elements. For DC circuits or supply, the definition and subsequent boundary of the protection system should end at the fuses or circuit breakers of the sources supplying the individual DC control circuits of the protection system. For a typical power plant station battery, the percent of the battery capacity sized for the protection system is very small. The battery and chargers are power source elements, not protection elements. Likewise, all intermediate power distribution elements between the battery, chargers, and dedicated protection system branch circuits, do not belong in the definition of the Protection System.
Response: : When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" not including battery chargers, and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now.				
5	TransAlta Centralia Generation, LLC	Joanna Luong-Tran	Negative	To increase the clarity of the definition, TransAlta proposes the following: Control circuitry associated with protective functions through to and including the trip coil(s) of the circuit breakers or other interrupting devices
Response: The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.				

Segment	Entity	Member	Ballot	Comments
8	SPS Consulting Group Inc.	Jim R Stanton	Negative	The term "Communication System" remains in the definition, despite the reality that at least for most generators, there is no communication system within the Protection System. Communication from device to device, such as a protective relay to a trip coil or alarm, it not a "system" per se but merely a wire connecting the devices. Keeping this definition as is perpetuates the confusion of generators when they design, modify and execute their protection system maintenance and testing program as the definition of the Protection System requires addressing a "communication system" which they do not have. Keeping the definition as is could lead to confused auditors who insist on literal adherence to the requirement language, clouding the audit and imposing ad hoc and perhaps inconsistent interpretations for audits, spot checks and self reports. What will most surely happen if this definition is approved is a quick request for interpretation by one or more entities seeking clarification on the requirement to include "communication systems" within their maintenance and testing program when they in fact have no such system. All this can be avoided by changing the term "communication systems" to "communication components." This is a primary example of fixing something on the front end so we don't have to go through interpretations and revisions to fix an ambiguity. This definition would also not pass a Quality Review due to the ambiguity of terms.
Response: The SDT believes the language is clear and addresses relay communication systems currently used by industry.				
8	Utility Services, Inc.	Brian Evans-Mongeon	Negative	While the language by itself is supportable, the definition is not complete. The SDT has still not addressed the question of when the definition will apply to Distribution Providers. Many DPs own and or operate the elements listed in the definition; however, the definition lacks clarity when such ownership or operation is subject to the performance obligations under the standard.
Response: This clarification is provided in each requirement that uses the term, "Protection System" by identifying the responsible entity. The comment relates to "application" of the definition, not to the definition.				

Segment	Entity	Member	Ballot	Comments
9	California Energy Commission	William Mitchell Chamberlain	Affirmative	The proposed definition is generally acceptable. However, a slight modification to the third bullet in the definition would be an improvement to the proposed wording: "DC supply sources affecting the 'Protection System' (including station batteries, battery chargers, and non-battery-based dc supply), and " In addition, a definition of non-battery-based dc supply should be included to avoid confusion we recommend the following: "The inverter or rectifier in the circuit, dependent upon how the end use equipment is designed. Uninterruptible power supply (UPS) such as on-line, line-interactive or standby that some of the protection system could be on."
Response: The SDT appreciates your support. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry. The term "non-battery-based dc supply" is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.				
9	Oregon Public Utility Commission	Jerome Murray	Affirmative	Although I voted yes, I recommend the following proposed wording for the third bullet: DC supply sources affecting the "Protection System" (including station batteries, battery chargers, and non-battery-based dc supply), and Also the definition of non-battery-based dc supply should be included to avoid confusion. I recommend the following: The inverter or rectifier in the circuit, dependent upon how the end use equipment is designed. Uninterruptible power supply (UPS) such as on-line, line-interactive or standby that some of the protection system could be on.
Response: The SDT appreciates your support. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry. The term "non-battery-based dc supply" is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.				
10	Midwest Reliability Organization	Dan R. Schoenecker	Affirmative	Suggest the second bullet language replace the term correct with the intended. Communications systems necessary for the intended operation of protective functions.
Response: The SDT appreciates your support. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.				

Segment	Entity	Member	Ballot	Comments
10	Western Electricity Coordinating Council	Louise McCarren	Affirmative	The definition is generally acceptable. However, we believe that better language for the third bullet is as follows: DC supply sources affecting the "Protection System" (including station batteries, battery chargers, and non-battery-based dc supply), and A definition of non-battery-based dc supply should be included to avoid confusion and we offer the following: The inverter or rectifier in the circuit, dependent upon how the end use equipment is designed. Uninterruptible power supply (UPS) such as on-line, line-interactive or standby that some of the protection system could be on. The intent of the suggestion would consider that the entire protection system has to operate in order to maintain the reliability of the BES. An example would be if the protective relay and associated communications were on a UPS system and the intended device to operate were on station batteries, this would be the best case scenario as the Micro processors relays and the newer associated communications do not like the voltage drop when the station switches to the station batteries, hence the use of UPS options. Micro processors relays do have internal battery backup to keep them up and running, though a maintenance task would have to be included to be sure that they are properly maintained and tested, so the UPS option is easier and has been kind of an industry standard in the past. In the end the UPS would have to be on a maintenance schedule also.
Response: The SDT appreciates your support. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry. The term "non-battery-based dc supply" is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.				

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on Protection System Maintenance & Testing — Project 2007-17 – Definition of Protection System

The Protection System Maintenance & Testing Standard Drafting Team thanks all commenters who submitted comments for the revised definition of "Protection System."

The revised definition was posted for a 30-day public comment period from September 13, 2010 through October 12, 2010. Stakeholders were asked to provide feedback on the definition through a special Electronic Comment Form. There were 27 sets of comments, including comments from more than 62 different people from approximately 53 companies representing 7 of the 10 Industry Segments as shown in the table on the following pages.

http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

While several commenters made suggestions to further refine the definition of Protection System, the team did not make any additional changes to the definition based on stakeholder comments. The team did, however remove the proposed modification to PER-005 from the implementation plan. No other changes were made.

- Some commenters made suggestions for modifications to various portions of the proposed definition of Protection System. There was no commonality to the proposed revisions and these modifications did not seem to provide greater clarity than was provided with the last version of the proposed definition posted for comment and ballot. Since most stakeholders agreed with the latest version of the proposed definition, no changes were made to the definition.
- Several commenters questioned the applicability of the defined term "Protection System" in PER-005; the SDT agreed and modified the Implementation Plan for the definition of Protection System to remove the reference to PER-005.
- Several commenters also used the comment period as a forum to show displeasure with the NERC and regional BES definitions. Making modifications to the definition of BES is outside the scope of work assigned to this drafting team.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Herb Schrayshuen, at 609-452-8060 or at herb.schrayshuen@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

[1] The appeals process is in the Reliability Standards Development Procedures: http://www.nerc.com/standards/newstandardsprocess.html.

Index to Questions, Comments, and Responses

The Industry Segments are:

1 — Transmission Owners
2 — RTOs, ISOs
3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities
10 — Regional Reliability Organizations, Regional Entities

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Mallory Huggins	NERC Staff										

Additional Member	Additional Organization	Region	Segment Selection	
1.	Phil Tatro	NERC	NA - Not Applicable	NA
2.	Bob Cummings	NERC	NA - Not Applicable	NA

Additional Member	Additional Organization	Region	Segment Selection	
1.	Phil Tatro	NERC	NA - Not Applicable	NA
2.	Bob Cummings	NERC	NA - Not Applicable	NA

2.	Group	Guy Zito	Northeast Power Coordinating Council											X

Additional Member	Additional Organization	Region	Segment Selection	
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
2.	Gregory Campoli	New York Independent System Operator	NPCC	2

Group/Individual	Commenter	Organization		Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
3.	Kurtis Chong	Independent Electricity System Operator	NPCC	2									
4.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1									
5.	Chris de Graffenried	Consolidated Edison Co. of New York, Inc.	NPCC	1									
6.	Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10									
7.	Dean Ellis	Dynegy Generation	NPCC	5									
8.	Brian Evans-Mongeon	Utility Services	NPCC	8									
9.	Mike Garton	Dominion Resources Services, Inc.	NPCC	5									
10.	Brian L. Gooder	Ontario Power Generation Incorporated	NPCC	5									
11.	Kathleen Goodman	ISO - New England	NPCC	2									
12.	Chantel Haswell	FPL Group, Inc.	NPCC	5									
13.	David Kiguel	Hydro One Networks Inc.	NPCC	1									
14.	Michael R. Lombardi	Northeast Utilities	NPCC	1									
15.	Randy MacDonald	New Brunswick System Operator	NPCC	2									
16.	Bruce Metruck	New York Power Authority	NPCC	6									
17.	Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10									
18.	Robert Pellegrini	The United Illuminating Company	NPCC	1									
19.	Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1									
20.	Saurabh Saksena	National Grid	NPCC	1									
21.	Michael Schiavone	National Grid	NPCC	1									
22.	Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3									
3. Group	Denise Koehn	Bonneville Power Administration		X		X		X	X				

Additional Member	Additional Organization	Region	Segment Selection
1.	Dean Bender	BPA, Transmission SPC Technical Svcs	WECC 1

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
4.	Group	Steve Rueckert	WECC										X

	Additional Member	Additional Organization	Region	Segment Selection
1.	Mary Rieger	WECC	WECC	10
2.	John McGee	WECC	WECC	10

5.	Group	Ben Li	IRC Standards Review Committee		x								

	Additional Member	Additional Organization	Region	Segment Selection
1.	Matt Goldberg	ISO-NE	NPCC	2
2.	Charles Yeung	SPP	SPP	2
3.	Bill Phillips	MISO	MRO	2
4.	Greg Van Pelt	CAISO	WECC	2
5.	Patrick Brown	PJM	RFC	2
6.	Steve Myers	ERCOT	ERCOT	2
7.	Mark Thompson	AESO	WECC	2
8.	James Castle	NYISO	NPCC	2

6.	Group	Michael Gammon	Kansas City Power & Light	x		x		x	x				

	Additional Member	Additional Organization	Region	Segment Selection
1.	Todd Moore	KCPL	SPP	1, 3, 5, 6

7.	Individual	Jana Van Ness	Arizona Public Service Company	x		x		x	x				
8.	Individual	James Stanton	SPS Consulting Group Inc.								X		
9.	Individual	Martin Bauer	US Bureau of Reclamation					X					
10.	Individual	Karl Bryan	US Army Corps of Engineers	X				X					

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
11.	Individual	Kirit S. Shah	Ameren	X		X		X	X				
12.	Individual	Greg Froehling	Green Country Energy					X					
13.	Individual	Dan Roethemeyer	Dynegy Inc.					X					
14.	Individual	Paul Rocha	CenterPoint Energy	X									
15.	Individual	Robert Ganley	LIPA	X									
16.	Individual	Andrew Z. Pusztai	American Transmission Company	X									
17.	Individual	Thad Ness	American Electric Power (AEP)	X		X		X	X				
18.	Individual	Kasia Mihalchuk	Manitoba Hydro	X		X		X	X				
19.	Individual	Kathleen Goodman	ISO New England Inc.		X								
20.	Individual	Patti Metro	NRECA	X		X							
21.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	X		X		X	X				
22.	Individual	Terry Harbour	MidAmerican Energy	X									
23.	Individual	Michael Lombardi	Northeast Utilities	X		X		X					
24.	Individual	Dan Rochester	Independent Electricity System Operator		X								
25.	Individual	Jason L. Marshall	Midwest ISO		X								

Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
26.	Individual	Greg Rowland	Duke Energy	X		X		X	X				
27.	Individual	Alice Murdock Ireland	Xcel Energy	X		X		X	X				

1. Do you agree with the proposed definition of "Protection System?" If not, please provide specific suggestions for improvement.

Summary Consideration: Numerous commenters confused the definition with its applicability in various standards. Other commenters made suggestions to modify various portions of the definition. No changes were made to the definition in response to these comments. Several commenters questioned the applicability of the defined term "Protection System" in PER-005; the SDT agreed and modified the Implementation Plan for the definition of Protection System to remove the reference to PER-005. Several commenters also used the comment period as a forum to show displeasure with the NERC and regional BES definitions. Making changes to the definition of Bulk Electric System is outside the scope of work assigned to this drafting team.

Organization	Yes or No	Question 1 Comment
NERC Staff	No	NERC staff does not support the phrase "voltage and current sensing devices providing input to protective relays." While no version of the definition has been all-inclusive with respect to this phrase, we believe that the best phrase would be a combination of several drafts and should state the following: "voltage and current sensing devices and associated circuitry from the voltage and current sensing devices to the protective relay inputs." As currently written, the definition represents a step backward from the language in the previous definition ("voltage and current sensing inputs to protective relays and associated circuitry from the voltage and current sensing devices") and should be modified.
Response: Thank you for your comment. The SDT believes the current draft of the definition as balloted is better supported by industry.		
Northeast Power Coordinating Council	No	This project addresses the definition of a Protection System. However, an ongoing issue that needs to be addressed is clarification of when a Bulk Electric System transmission Protection System applies to a Distribution Provider. An example would be for a tee-tap off a Bulk Power System 345kV line to a step down transformer supplying distribution--would the relaying on the low side of the transformer be expected to comply with the requirements of PRC-005-2? Would the protection system configuration be considered a Protection System? Will this issue be addressed within the scope of Project 2007-17?
Response: Thank you for your comment. The SDT believes these questions are not within the scope of Project 2007-17 and should be addressed by the Regional Entities.		
WECC		The definition is generally acceptable. However, we believe that better language for the third bullet is as follows: DC supply sources affecting the "Protection System" (including station batteries, battery chargers, and non-battery-based dc supply), and...A definition of non-battery-based dc supply should be included to avoid confusion and we offer the following: The inverter or rectifier in the circuit, dependent upon how the end use quipment is designed. Uninterruptible power supply (UPS) such as on-line, line-interactive or standby that some of the protection system could be on. The intent of the suggestion would consider that the entire protection system has to operate in order to maintain the reliability of the BES. An example would be if the protective relay

Organization	Yes or No	Question 1 Comment
		and associated communications were on a UPS system and the intended device to operate were on station batteries, this would be the best case scenario as the Micro processors relays and the newer associated communications do not like the voltage drop when the station switches to the station batteries, hence the use of UPS options. Micro processors relays do have internal battery backup to keep them up and running, though a maintenance task would have to be included to be sure that they are properly maintained and tested, so the UPS option is easier and has been “kind of” an industry standard in the past. In the end the UPS would have to be on a maintenance schedule also.
Response: Thank you for your comment. The SDT believes the current draft of the definition as balloted is better supported by industry. The term “non-battery-based dc supply” is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.		
Kansas City Power & Light	No	The phrase, "non-battery-based dc supply" is ambiguous and not well defined. It is critical this definition be clear in its intent and not introduce confusion to allow maintenance programs to be effective. Recommend this phrase either needs additional definition or should be considered for removal.
Response: Thank you for your comment. The SDT believes the language is clear and supported by industry. The term “non-battery-based dc supply” is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.		
SPS Consulting Group Inc.	No	The revised definition perpetuates the confusion over "communications systems" embedded or otherwise associated with Protection Systems. The term "communications components" is more accurate.
Response: Thank you for your comment. The SDT believes the language is clear and addresses relay communication systems currently used by industry.		
US Bureau of Reclamation	No	The term "protection functions" is ambiguous as it is not related to the protection function associated with the protective relays. There are other protection functions not associated with protective relays that respond to electrical quantities. The language for Communication systems should be changed to remove the ambiguity. The following change would be clear, "Communication system necessary for the correct operation of the protective relays" The input to the relays is from voltage and current sensing devices through their respective circuits. Since the definition for protective relays separates the term "control circuitry" associated with protective relays, it is clear that protective relays do not also include the "control circuitry". By the same token, voltage and current sensing devices do not include their related circuits. The definition for voltage and current sensing devices should be revised to include the term "circuits". The following language change would serve make it clear: "Voltage and current sensing devices and their respective circuits providing inputs protective relays".
Response: Thank you for your comment. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.		
US Army Corps of Engineers	No	The use of the term "protection functions" is not a defined NERC term and either the term should be defined or it should not be used. At best the term is ambiguous and could lead to scope growth by auditors. Recommend

Organization	Yes or No	Question 1 Comment
		that the following changes be made: "Communication system necessary for the correct operation of the protective relays." "Control circuitry associated with protective relays through the trip coil(s) of the circuit breaker or other interrupting device." See the next paragraph for the proposed correction to the DC Supply part of the definition. The input to the relay is from voltage and current sensing devices yet there is no mention of the associated circuits. The same can be said about the station DC supply circuits. The definition should apply to the circuits providing inputs or control power to the protective relays and from the output of the relays to the tripping coils of the circuit breaker. Recommend the following: "Voltage and current sensing devices and their respective circuits providing inputs to the protective relays." "Station DC supply associated with protective relays (including station batteries, battery charger, non-battery-based DC supply circuitry to the protective relays and from the relay to the trip coil(s)of the circuit breaker), and"
Response: Thank you for your comment. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.		
Dynegy Inc.	No	The majority of the definition is good; however, the term "non-battery-based dc supply' is still somewhat vague. Can you please further define or provide some examples?
Response: Thank you for your comment. The SDT believes the language is clear and supported by industry. The term "non-battery-based dc supply" is meant to be a broad term to capture other methods such as flywheels, compressed air, fuel cells, or any other emerging technology which is capable of supplying dc power to the Protection System.		
CenterPoint Energy	No	(a) CenterPoint Energy believes the proposed re-definition of "Protection System" is technically incorrect due to the inclusion of trip coils as part of the control circuitry. A protection system has correctly performed its function if it provides tripping voltage up to the terminals of trip coils. From that point, the circuit breaker can fail to timely interrupt fault current due to several factors, such as a binding mechanism, stuck mechanism, broken pull rod, bad insulating medium, or bad trip coils. Local breaker failure protection, or remote backup protection, is installed to address the various possible causes of circuit breaker failure. The proposed re-definition of "Protection System" should be revised to indicate control circuitry associated with protective functions UP TO THE TERMINALS OF the trip coil(s) of the circuit breakers or other interrupting devices. (b) On the surface, the proposed re-definition of "Protection System" appears mainly applicable to PRC-005 based upon the Standards Announcement and proposed Implementation Plan. However, NERC standard PRC-004-1 Analysis and Mitigation of Transmission and Generation Protection System Misoperations also uses the capitalized term "Protection System". CenterPoint Energy believes it is inappropriate to require reporting of Misoperations of transmission Protection Systems and generator Protection Systems for bad trip coils within a circuit breaker. For application to PRC-004-1, CenterPoint Energy recommends revising the proposed re-definition to indicate control circuitry associated with protective functions UP TO THE TERMINALS OF the trip coil(s) of the circuit breakers or other interrupting devices.
Response: Thank you for your comment. The SDT believes the current draft of the definition as balloted is better supported by industry.		
Midwest ISO	No	We have an issue with the implementation plan. The implementation plan proposes to capitalize the term

Organization	Yes or No	Question 1 Comment
		"protection system" in NUC-001-2, PER-005-1, and PRC-001-1. We disagree with capitalizing the term because protection system was a defined term when these standards were written. Thus, if the drafting teams of those standards intended for the definition in the NERC glossary of terms to apply, they would have capitalized the term. Furthermore, capitalizing the term may fundamentally alter the meaning of the standard. For PER-005-1, we believe the standard is altered because protection system as used in this standard actually refers to special protection system or remedial action schemes.
Response: Thank you for your comment. The SDT agrees and will revise the Implementation Plan to remove PER-005 from the list of standards to be modified. However, the SDT believes the term Protection System should be capitalized as described in the Implementation Plan for NUC-001-2 and PRC-001-1.		
American Electric Power (AEP)	No	1. This change in definition needs to occur concurrently with other related projects (PRC-005-2). Neither the SDT nor the SC should establish a practice of making changes to definitions outside the parameters of changes to standards. This will introduce opportunities for confusion and does not provide the appropriate signals to the Registered Entities to adjust their programs and make the appropriate changes. If this has to be done faster than the pace of the current PRC-005-2 project, we suggest it still be paired with that project, but a smaller scope be considered to allow for this to pass quickly as possible and then the remaining work can be accomplished in PRC-005-3. 2. We suggest that the SDT consider the creation of sub-definitions opposed to crafting a single term for complex and diverse components that could make up the Protection System. As it stands, AEP cannot support this as it still does not remove the degree of ambiguity that could result in interpretation challenges during later enforcement and monitoring activities. We understand the urgency to make progress; however, the deliverables of this team can have significant collateral impacts in the compliance process. 3. The bullet for Protective relays should be further clarified with the addition of applied on or designed to provide protection for the BES that responds to the electrical fault or disturbance conditions. 4. Below are the comments that were provided in the second draft that were not adequately addressed in the consideration of the comments. A. The definition as drafted includes "Station dc supply." While this appears reasonable and innocuous, the term is unclear and could be construed by an auditor to include a lot of equipment and infrastructure not intended by the PSMT SDT. For example, station battery chargers are typically supplied by station auxiliary power transformers, which in turn are supplied by primary-voltage bus work, primary-voltage fuses, or primary-voltage circuit breakers. An auditor for either PRC-005 or any other Standard referencing "Protection System" could read that such primary-voltage equipment is part of the Protection System and therefore subject to certain requirements in either PRC-005 or any other Standard referencing Protection System. B. The definition as drafted includes "Communications systems necessary. . . ". Once again, this term appears innocuous, but it is actually unclear. For example, if a transfer-trip channel is carried on a microwave path, an auditor may decide that the entire microwave equipment, microwave building battery, and microwave building emergency generator are all part of the Protection System, and thus subject to requirements in either PRC-005 or other existing or future Standards that refer to Protection System. AEP

Organization	Yes or No	Question 1 Comment
		recommends that the term be phrased "communications paths" opposed to "communications systems". C. Similar to the above two items, we are concerned about the inclusion of voltage and current-sensing "devices" in the Definition. As written, applicability can be inferred to the entire device and not merely its output quantities, not only for this Standard but any other that references a Protection System. AEP recommends the phrase "circuitry from voltage and current-sensing devices providing inputs to protective relays" instead of "voltage and current-sensing devices providing inputs to protective relays."
Response: When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1. **2. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry.** **3. The SDT believes these questions are not within the scope of Project 2007-17 and should be addressed by the Regional Entities.** **4A. The SDT believes the current draft of the definition as balloted is clear, concise, and supported by industry. The definition of Protection System with regards to dc supply has been modified and now reads:** Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply). **4B. The SDT believes your comment pertains to standards and requirements, and not the definition of Protection System.** **4C. The SDT believes the current draft of the definition as balloted is better supported by industry.**		
Independent Electricity System Operator	No	While we agree with the definition itself, we do have a concern about its application. An ongoing issue that needs to be addressed is clarification of when a Bulk Electric System transmission Protection System applies to a Distribution Provider. This was addressed in part in the interpretation request regarding transmission Protection Systems, Project 2009-17. An example would be for a tee-tap off a Bulk Power System 345kV line to a step down transformer supplying distribution -- would the relaying on the low voltage side of the transformer be expected to comply with the requirements of PRC-005-2? Would the protection system configuration be considered a Protection System? Will this issue be addressed within the scope of Project 2007-17?
Response: Thank you for your comment. This clarification is provided in each requirement that uses the term, "Protection System" by identifying the responsible entity. The question relates to "application" of the definition, not to the definition."		
NRECA		My comment is related to the Implementation plan which will modify the PER-005. I am specifically concerned with changing in R3.1 "established operating guides or "protection systems" to mitigate IROL violations" to "established operating guides or "Protection Systems" to mitigate IROL violations". This modification changes the intent of requirement PER-005 R3.1. The requirement was developed by the drafting team to address an Order 693 directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. The System Personnel Training SDT felt that the use of the phrase "established IROLs or has established operating guides

Organization	Yes or No	Question 1 Comment
		or protection systems to mitigate IROL violations" appropriately represents the impact of entities on the reliability of the BES. In the context of PER-005 R3.1, this specific language was used to broadly include anything that an entity utilizes to prevent an IROL which could be an "operating guide or a protection system" like a RAS in WECC or an SPS in the Eastern Interconnection. It was not intended to include all the items included in the term that is being defined in Project 2007-17.
Response: Thank you for your comment. The SDT agrees and will revise the Implementation Plan to remove PER-005 from the list of standards to be modified.		
MidAmerican Energy	No	The drafting team did not properly address previous comments to include BES references in each PRC-005 sub bullet definitions and left "DC system" wording in the definition with only a comment in parentheses. The Protection System definition affects multiple standards and must stand alone across those standards. Therefore: 1. BES references are still needed in each sub bullet definition to eliminate ambiguity and to create clearly auditable requirements, meeting a basic standards drafting principal being requested both by FERC and the industry. 2. "DC system" remains a wide open definition. Because regulators and auditors are auditing to "zero" defect requirements and imposing their own interpretations, only specific wording is acceptable. The term "DC system" needs to be replaced with explicit pieces of equipment such as "batteries, battery chargers, and AC / DC converters". To be a credible audit process, both the auditor and audited entity must have a clear understanding of what is being audited. DC system can be interpreted in many ways by an entity or auditor and is not an acceptable term. Further, BES references are needed to create clear and auditable boundaries for this definition.
Response: Thank you for your comments. These comments all relate to "application" of the definition; "auditable boundaries" and "auditable requirements" are part of the standard.		
Duke Energy	Yes	We agree with the revised definition. However the added language raises a question regarding how PRC-005-2 would be applied to DC supply situations where the battery is the backup to the "normal" source of DC power. Specifically, it's unclear to us that Uninterruptible Power Supplies (UPS), rectifiers and motor-generator sets that use batteries as a backup are included in the scope of Table 1.
Response: Thank you for your comment. The SDT believes your comment pertains to the standard PRC-005-2 and not the definition of Protection Systems.		
Xcel Energy	Yes	The Implementation Plan indicates that the lower case "protection system" in 3 other standards would be replaced with the capitalized term "Protection System" to properly reflect its use in those standards. In PRC-001 the term "protective system" is also used, however the Implementation Plan does not indicate whether this term will also be replaced. If not, then it would seem to imply that the term "protective system" has different meaning than "protection system/Protection System". There is concern that the use of "Protection System" in PRC-001 will require entities to 'coordinate" changes to all elements of the Protection System, which could be of no value for elements such as batteries, battery chargers. It is not clear as to if the intent that ALL elements of the

Organization	Yes or No	Question 1 Comment
		Protection System be coordinated when a new or changed Protection System occurs.
Response: Thank you for your comment. The term "protective system" is not a defined term in the NERC glossary and is not addressed by the Implementation Plan.		
LIPA	Yes	Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and ....Change to Station dc supply associated with protective functions, and....
Response: Thank you for your comment. The SDT believes the current draft of the definition as balloted is better supported by industry.		
American Transmission Company	Yes	None.
Manitoba Hydro	Yes	
ISO New England Inc.	Yes	
South Carolina Electric and Gas	Yes	
Northeast Utilities	Yes	
IRC Standards Review Committee	Yes	
Bonneville Power Administration	Yes	
Arizona Public Service Company	Yes	
Ameren	Yes	
Green Country Energy	Yes	

Proposed Definition of Protection System:

Protection System –

- Protective relays which respond to electrical quantities,
- Communications systems necessary for correct operation of protective functions,
- Voltage and current sensing devices providing inputs to protective relays,
- Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and
- Control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

Protection System Definition

The previously approved (Board of Trustees) definition of Protection System reads as follows:

Protection System: Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.

Proposed Changes to Board of Trustees Approved Version of Definition:

Protection System: Protective relays which respond to electrical quantities, ~~associated~~ communication systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays, station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery based ~~and DC~~ dc supply), and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

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Implementation Plan for the Revised Definition of Protection System

Prerequisite Approvals or Activities:

The implementation of the revised definition is not dependent upon any other activity.

Recommended Modifications to Already Approved Standards

The non-capitalized version of the term, "protection system" is used in the following approved standards:

- NUC-001-2 – Nuclear Plant Interface Coordination
- PRC-001-1 – System Protection Coordination

The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.

Proposed Effective Date:

Each responsible entity (Distribution Provider that owns a transmission Protection System, Transmission Owner, and Generator Owner) shall modify its protection system maintenance and testing program description and basis document(s) (required in Requirement R1 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) as necessary to reflect the modified definition of 'Protection System' by the first day of the first calendar quarter twelve months following regulatory approvals and implement any additional maintenance and testing (required in Requirement R2 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) by the end of the first complete maintenance and testing cycle described in the entity's program description and basis document(s) following establishment of the program changes resulting from the revised definition.

The original definition of "Protection System" shall be retired at the same time the revised definition becomes effective.

Implementation Plan for the Revised Definition of Protection System

Prerequisite Approvals or Activities:

The implementation of the revised definition is not dependent upon any other activity.

Recommended Modifications to Already Approved Standards

The non-capitalized version of the term, "protection system" is used in the following approved standards:

- NUC-001-2 – Nuclear Plant Interface Coordination
- ~~PER-005-1 – System Personnel Training~~
- PRC-001-1 – System Protection Coordination

The term, "protection system" shall be capitalized where used in these standards when the definition of "Protection System" is approved by applicable regulatory authorities.

Proposed Effective Date:

Each responsible entity (Distribution Provider that owns a transmission Protection System, Transmission Owner, and Generator Owner) shall modify its protection system maintenance and testing program description and basis document(s) (required in Requirement R1 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) as necessary to reflect the modified definition of 'Protection System' by the first day of the first calendar quarter twelve months following regulatory approvals and implement any additional maintenance and testing (required in Requirement R2 of PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing) by the end of the first complete maintenance and testing cycle described in the entity's program description and basis document(s) following establishment of the program changes resulting from the revised definition.

The original definition of "Protection System" shall be retired at the same time the revised definition becomes effective.

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Standards Announcement

Recirculation Ballot Open
November 1-11, 2010

Available at: https://standards.nerc.net/CurrentBallots.aspx

Project 2007-17 Protection System Maintenance Definition

A recirculation ballot period is open through **8 p.m. Eastern on November 11, 2010**.

Instructions

Members of the ballot pool associated with this project may log in and submit their votes from the following page: https://standards.nerc.net/CurrentBallots.aspx

Ballot Process

The Standards Committee encourages all members of the ballot pool to review the consideration of comments submitted during the successive ballot window that ended October 14, 2010 and the consideration of comments submitted during the formal comment period that ended October 12, 2010.

In the recirculation ballot, votes are counted by exception only. If a ballot pool member does not submit a revision to that member's original vote, the vote remains the same as in the first ballot. Members of the ballot pool may:

- Reconsider and change their vote from the first ballot.
- Vote in the second ballot even if they did not vote on the first ballot.
- Take no action if they do not want to change their original vote.

Additional Information

The Standard Processes Manual allows drafting teams to make changes following an initial or successive ballot with a goal of improving the quality of a standard (or definition), provided those changes do not alter the applicability or scope of the proposed standard (or definition). The Protection System Maintenance and Testing drafting team made the following minor edit to the implementation plan for the definition of Protection System:

- Removed PER-005-1 – System Personnel Training from the set of standards with conforming changes associated with the approval of the proposed definition of Protection System

A redline version of the Implementation Plan showing the above change has been posted for stakeholder review.

Next Steps

Voting results will be posted and announced after the ballot window closes. If approved, the definition and associated implementation plan will be submitted to the Board of Trustees.

Project Background

When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System and Maintenance Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system," and directed that work to close this reliability gap should be given “priority.” The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

Project Page: http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

Standards Process

The Standard Processes Manual contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

For more information or assistance, please contact Monica Benson, Standards Process Administrator, at monica.benson@nerc.net or at 609.452.8060.

North American Electric Reliability Corporation
116-390 Village Blvd.
Princeton, NJ 08540
609.452.8060 | www.nerc.com

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Standards Announcement
Recirculation Ballot Results

Now available at: https://standards.nerc.net/Ballots.aspx

Project 2007-17 Ballot Results for Definition of Protection System
The recirculation ballot window to vote on a proposed revision to the definition of the term, "Protection System" and its associated implementation plan closed on November 11, 2010. The ballot pool approved the revised definition and its associated implementation plan. Voting statistics are listed below, and the Ballot Results Web page provides a link to the detailed results:

Quorum: 89.41 %
Approval: 86.83 %

Next Steps
The revised definition and its associated implementation plan will be submitted to the NERC Board of Trustees for approval.

Project Background
When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the Protection System Maintenance and Testing Standard Drafting Team, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system," and directed that work to close this reliability gap should be given "priority." The Standards Committee directed the team to advance the definition of Protection System in parallel with the development of PRC-005-2.

Project Page: http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html

Ballot Criteria
Approval requires both a (1) quorum, which is established by at least 75% of the members of the ballot pool for submitting either an affirmative vote, a negative vote, or an abstention, and (2) a two-thirds majority of the weighted segment votes cast must be affirmative; the number of votes cast is the sum of affirmative and negative votes, excluding abstentions and non-responses.

Standards Process
The Standard Processes Manual contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate.

For more information or assistance, please contact Monica Benson, Standards Process Administrator, at monica.benson@nerc.net or at 609.452.8060.

North American Electric Reliability Corporation
116-390 Village Blvd.
Princeton, NJ 08540
609.452.8060 | www.nerc.com

Ballot Results	
Ballot Name:	Project 2007-17 Protection System Maintenance (Protection System definition)_rc
Ballot Period:	11/1/2010 - 11/11/2010
Ballot Type:	recirculation
Total # Votes:	287
Total Ballot Pool:	321
Quorum:	**89.41 % The Quorum has been reached**
Weighted Segment Vote:	86.83 %
Ballot Results:	**The Standard has Passed**

Summary of Ballot Results

Segment	Ballot Pool	Segment Weight	Affirmative # Votes	Affirmative Fraction	Negative # Votes	Negative Fraction	Abstain # Votes	No Vote
1 - Segment 1.	89	1	65	0.855	11	0.145	5	8
2 - Segment 2.	9	0.5	5	0.5	0	0	1	3
3 - Segment 3.	71	1	56	0.903	6	0.097	2	7
4 - Segment 4.	24	1	19	0.905	2	0.095	1	2
5 - Segment 5.	67	1	40	0.741	14	0.259	6	7
6 - Segment 6.	37	1	28	0.848	5	0.152	1	3
7 - Segment 7.	0	0	0	0	0	0	0	0
8 - Segment 8.	11	0.8	6	0.6	2	0.2	1	2
9 - Segment 9.	6	0.4	4	0.4	0	0	1	1
10 - Segment 10.	7	0.5	5	0.5	0	0	1	1
Totals	**321**	**7.2**	**228**	**6.252**	**40**	**0.948**	**19**	**34**

Individual Ballot Pool Results

Segment	Organization	Member	Ballot	Comments
1	Allegheny Power	Rodney Phillips	Affirmative	
1	Ameren Services	Kirit S. Shah	Negative	View
1	American Electric Power	Paul B. Johnson	Negative	View
1	American Transmission Company, LLC	Jason Shaver	Affirmative	View
1	Arizona Public Service Co.	Robert D Smith	Affirmative	
1	Associated Electric Cooperative, Inc.	John Bussman	Affirmative	
1	Avista Corp.	Scott Kinney		

1	Baltimore Gas & Electric Company	John J. Moraski	Abstain	View
1	BC Transmission Corporation	Gordon Rawlings	Affirmative	
1	Beaches Energy Services	Joseph S. Stonecipher	Affirmative	
1	Black Hills Corp	Eric Egge		
1	Bonneville Power Administration	Donald S. Watkins	Affirmative	
1	CenterPoint Energy	Paul Rocha	Negative	
1	Central Maine Power Company	Brian Conroy	Affirmative	
1	City of Vero Beach	Randall McCamish	Affirmative	
1	City Utilities of Springfield, Missouri	Jeff Knottek	Affirmative	
1	Clark Public Utilities	Jack Stamper	Affirmative	
1	Cleco Power LLC	Danny McDaniel	Affirmative	
1	Colorado Springs Utilities	Paul Morland	Negative	View
1	Commonwealth Edison Co.	Daniel Brotzman	Affirmative	
1	Consolidated Edison Co. of New York	Christopher L de Graffenried	Affirmative	
1	Dairyland Power Coop.	Robert W. Roddy	Negative	
1	Dayton Power & Light Co.	Hertzel Shamash	Affirmative	
1	Deseret Power	James Tucker	Affirmative	
1	Dominion Virginia Power	John K Loftis	Affirmative	
1	Duke Energy Carolina	Douglas E. Hils	Affirmative	
1	East Kentucky Power Coop.	George S. Carruba	Affirmative	
1	Empire District Electric Co.	Ralph Frederick Meyer	Affirmative	
1	Entergy Corporation	George R. Bartlett	Affirmative	
1	FirstEnergy Energy Delivery	Robert Martinko	Affirmative	View
1	Florida Keys Electric Cooperative Assoc.	Dennis Minton	Affirmative	
1	Gainesville Regional Utilities	Luther E. Fair	Affirmative	
1	GDS Associates, Inc.	Claudiu Cadar	Negative	View
1	Georgia Transmission Corporation	Harold Taylor, II	Affirmative	
1	Great River Energy	Gordon Pietsch	Affirmative	
1	Hydro One Networks, Inc.	Ajay Garg	Affirmative	
1	Idaho Power Company	Ronald D. Schellberg	Affirmative	
1	International Transmission Company Holdings Corp	Michael Moltane		
1	Kansas City Power & Light Co.	Michael Gammon	Negative	View
1	Keys Energy Services	Stan T. Rzad	Affirmative	
1	Lake Worth Utilities	Walt Gill	Affirmative	
1	Lakeland Electric	Larry E Watt	Affirmative	
1	Lincoln Electric System	Doug Bantam	Affirmative	
1	Long Island Power Authority	Robert Ganley	Affirmative	
1	Lower Colorado River Authority	Martyn Turner	Affirmative	
1	Manitoba Hydro	Michelle Rheault	Affirmative	
1	Metropolitan Water District of Southern California	Ernest Hahn	Abstain	
1	MidAmerican Energy Co.	Terry Harbour	Affirmative	
1	Minnesota Power, Inc.	Randi Woodward	Affirmative	
1	National Grid	Saurabh Saksena	Affirmative	
1	Nebraska Public Power District	Richard L. Koch	Affirmative	View
1	New York Power Authority	Arnold J. Schuff		
1	Northeast Utilities	David H. Boguslawski	Affirmative	
1	NorthWestern Energy	John Canavan	Affirmative	
1	Ohio Valley Electric Corp.	Robert Mattey	Negative	View
1	Oklahoma Gas and Electric Co.	Marvin E VanBebber	Abstain	
1	Omaha Public Power District	Douglas G Peterchuck	Affirmative	
1	Orlando Utilities Commission	Brad Chase	Affirmative	
1	Otter Tail Power Company	Lawrence R. Larson		
1	Pacific Gas and Electric Company	Chifong L. Thomas	Negative	View
1	PacifiCorp	Mark Sampson		
1	PECO Energy	Ronald Schloendorn	Affirmative	
1	Platte River Power Authority	John C. Collins	Affirmative	
1	Potomac Electric Power Co.	Richard J Kafka	Affirmative	
1	PowerSouth Energy Cooperative	Larry D. Avery	Affirmative	
1	PPL Electric Utilities Corp.	Brenda L Truhe	Affirmative	
1	Public Service Company of New Mexico	Laurie Williams	Abstain	
1	Public Service Electric and Gas Co.	Kenneth D. Brown	Affirmative	
1	Public Utility District No. 1 of Chelan County	Chad Bowman	Affirmative	
1	Puget Sound Energy, Inc.	Catherine Koch	Affirmative	
1	Sacramento Municipal Utility District	Tim Kelley	Affirmative	
1	Salt River Project	Robert Kondziolka	Affirmative	

1	Santee Cooper	Terry L. Blackwell	Affirmative	
1	SCE&G	Henry Delk, Jr.	Affirmative	
1	Seattle City Light	Pawel Krupa	Affirmative	View
1	South Texas Electric Cooperative	Richard McLeon	Affirmative	
1	Southern California Edison Co.	Dana Cabbell	Affirmative	
1	Southern Company Services, Inc.	Horace Stephen Williamson	Affirmative	
1	Southern Illinois Power Coop.	William G. Hutchison		
1	Southwest Transmission Cooperative, Inc.	James L. Jones	Abstain	
1	Southwestern Power Administration	Gary W Cox	Affirmative	
1	Sunflower Electric Power Corporation	Noman Lee Williams	Affirmative	
1	Tennessee Valley Authority	Larry Akens	Affirmative	
1	Tri-State G & T Association, Inc.	Keith V. Carman	Negative	View
1	Tucson Electric Power Co.	John Tolo		
1	United Illuminating Co.	Jonathan Appelbaum	Affirmative	
1	Westar Energy	Allen Klassen	Affirmative	
1	Western Area Power Administration	Brandy A Dunn	Negative	View
1	Xcel Energy, Inc.	Gregory L Pieper	Affirmative	
2	Alberta Electric System Operator	Mark B Thompson	Affirmative	
2	BC Transmission Corporation	Faramarz Amjadi		
2	Electric Reliability Council of Texas, Inc.	Chuck B Manning	Abstain	
2	Independent Electricity System Operator	Kim Warren	Affirmative	
2	ISO New England, Inc.	Kathleen Goodman	Affirmative	
2	Midwest ISO, Inc.	Jason L Marshall	Affirmative	View
2	New York Independent System Operator	Gregory Campoli		
2	PJM Interconnection, L.L.C.	Tom Bowe		
2	Southwest Power Pool	Charles H Yeung	Affirmative	
3	Alabama Power Company	Richard J. Mandes	Affirmative	
3	Allegheny Power	Bob Reeping	Affirmative	
3	Ameren Services	Mark Peters	Affirmative	
3	American Electric Power	Raj Rana		
3	Arizona Public Service Co.	Thomas R. Glock		
3	Atlantic City Electric Company	James V. Petrella	Affirmative	
3	BC Hydro and Power Authority	Pat G. Harrington	Affirmative	
3	Bonneville Power Administration	Rebecca Berdahl	Affirmative	
3	Central Lincoln PUD	Steve Alexanderson	Affirmative	
3	City of Bartow, Florida	Matt Culverhouse	Affirmative	
3	City of Clewiston	Lynne Mila	Affirmative	
3	City of Farmington	Linda R. Jacobson	Abstain	
3	City of Green Cove Springs	Gregg R Griffin	Affirmative	
3	City of Leesburg	Phil Janik	Affirmative	
3	ComEd	Bruce Krawczyk	Affirmative	
3	Consolidated Edison Co. of New York	Peter T Yost	Affirmative	
3	Consumers Energy	David A. Lapinski	Negative	View
3	Cowlitz County PUD	Russell A Noble	Affirmative	
3	Delmarva Power & Light Co.	Michael R. Mayer	Affirmative	
3	Detroit Edison Company	Kent Kujala	Affirmative	
3	Dominion Resources Services	Michael F Gildea	Abstain	
3	Duke Energy Carolina	Henry Ernst-Jr	Affirmative	
3	East Kentucky Power Coop.	Sally Witt	Affirmative	
3	Entergy	Joel T Plessinger	Affirmative	
3	FirstEnergy Solutions	Kevin Querry	Affirmative	View
3	Florida Power Corporation	Lee Schuster	Affirmative	
3	Gainesville Regional Utilities	Kenneth Simmons	Affirmative	
3	Georgia Power Company	Anthony L Wilson	Affirmative	
3	Georgia System Operations Corporation	R Scott S. Barfield-McGinnis	Affirmative	
3	Great River Energy	Sam Kokkinen	Affirmative	
3	Gulf Power Company	Gwen S Frazier	Affirmative	
3	Hydro One Networks, Inc.	Michael D. Penstone	Affirmative	
3	JEA	Garry Baker		
3	Kansas City Power & Light Co.	Charles Locke	Negative	View
3	Kissimmee Utility Authority	Gregory David Woessner	Affirmative	
3	Lakeland Electric	Mace Hunter	Affirmative	
3	Lincoln Electric System	Bruce Merrill	Affirmative	
3	Los Angeles Department of Water & Power	Kenneth Silver		
3	Louisville Gas and Electric Co.	Charles A. Freibert	Affirmative	
3	Manitoba Hydro	Greg C Parent	Affirmative	
3	MEAG Power	Steven Grego	Affirmative	

3	MidAmerican Energy Co.	Thomas C. Mielnik	Negative	View
3	Mississippi Power	Don Horsley	Affirmative	
3	Municipal Electric Authority of Georgia	Steven M. Jackson	Affirmative	
3	Muscatine Power & Water	John S Bos	Affirmative	
3	New York Power Authority	Marilyn Brown		
3	Niagara Mohawk (National Grid Company)	Michael Schiavone	Affirmative	
3	Northern Indiana Public Service Co.	William SeDoris	Affirmative	
3	Ocala Electric Utility	David T. Anderson	Affirmative	
3	Orlando Utilities Commission	Ballard Keith Mutters	Affirmative	
3	PacifiCorp	John Apperson	Affirmative	
3	PECO Energy an Exelon Co.	Vincent J. Catania	Affirmative	
3	Platte River Power Authority	Terry L Baker	Affirmative	
3	Potomac Electric Power Co.	Robert Reuter	Affirmative	
3	Progress Energy Carolinas	Sam Waters	Affirmative	
3	Public Service Electric and Gas Co.	Jeffrey Mueller	Affirmative	
3	Public Utility District No. 1 of Chelan County	Kenneth R. Johnson	Affirmative	
3	Public Utility District No. 2 of Grant County	Greg Lange	Negative	
3	Sacramento Municipal Utility District	James Leigh-Kendall	Affirmative	
3	Salem Electric	Anthony Schacher	Affirmative	
3	Salt River Project	John T. Underhill	Affirmative	
3	San Diego Gas & Electric	Scott Peterson	Affirmative	View
3	Santee Cooper	Zack Dusenbury	Affirmative	
3	Seattle City Light	Dana Wheelock	Affirmative	View
3	Southern California Edison Co.	David Schiada	Affirmative	
3	Springfield Utility Board	Jeff Nelson	Affirmative	
3	Tampa Electric Co.	Ronald L Donahey		
3	Tri-State G & T Association, Inc.	Janelle Marriott	Negative	View
3	Wisconsin Electric Power Marketing	James R. Keller	Negative	View
3	Wisconsin Public Service Corp.	Gregory J Le Grave		
3	Xcel Energy, Inc.	Michael Ibold	Affirmative	
4	Alliant Energy Corp. Services, Inc.	Kenneth Goldsmith	Abstain	
4	American Municipal Power - Ohio	Kevin Koloini		
4	American Public Power Association	Allen Mosher	Affirmative	
4	City of Clewiston	Kevin McCarthy	Affirmative	
4	City of New Smyrna Beach Utilities Commission	Timothy Beyrle	Affirmative	
4	Consumers Energy	David Frank Ronk	Negative	View
4	Cowlitz County PUD	Rick Syring	Affirmative	
4	Detroit Edison Company	Daniel Herring	Affirmative	
4	Florida Municipal Power Agency	Frank Gaffney	Affirmative	
4	Fort Pierce Utilities Authority	Thomas W. Richards	Affirmative	
4	Georgia System Operations Corporation	Guy Andrews	Affirmative	
4	Illinois Municipal Electric Agency	Bob C. Thomas	Affirmative	
4	Integrys Energy Group, Inc.	Christopher Plante	Affirmative	
4	Madison Gas and Electric Co.	Joseph G. DePoorter	Affirmative	
4	Ohio Edison Company	Douglas Hohlbaugh	Affirmative	View
4	Old Dominion Electric Coop.	Mark Ringhausen	Affirmative	
4	Public Utility District No. 1 of Douglas County	Henry E. LuBean	Affirmative	
4	Public Utility District No. 1 of Snohomish County	John D. Martinsen	Affirmative	
4	Sacramento Municipal Utility District	Mike Ramirez	Affirmative	
4	Seattle City Light	Hao Li	Affirmative	View
4	Seminole Electric Cooperative, Inc.	Steven R Wallace	Affirmative	
4	South Mississippi Electric Power Association	Steve McElhaney		
4	Wisconsin Energy Corp.	Anthony Jankowski	Negative	View
4	Y-W Electric Association, Inc.	James A Ziebarth	Affirmative	
5	AEP Service Corp.	Brock Ondayko	Negative	View
5	Amerenue	Sam Dwyer	Affirmative	View
5	APS	Mel Jensen	Affirmative	
5	Avista Corp.	Edward F. Groce	Abstain	
5	Black Hills Corp	George Tatar	Abstain	
5	Bonneville Power Administration	Francis J. Halpin	Affirmative	
5	Chelan County Public Utility District #1	John Yale	Affirmative	
5	City of Grand Island	Jeff Mead	Affirmative	
5	City of Tallahassee	Alan Gale	Abstain	
5	City Water, Light & Power of Springfield	Karl E. Kohlrus	Affirmative	
5	Consolidated Edison Co. of New York	Wilket (Jack) Ng	Affirmative	

5	Constellation Power Source Generation, Inc.	Amir Y Hammad	Negative	View
5	Consumers Energy	James B Lewis	Negative	View
5	Cowlitz County PUD	Bob Essex	Affirmative	
5	Dominion Resources, Inc.	Mike Garton	Affirmative	
5	Duke Energy	Robert Smith	Affirmative	
5	Dynegy Inc.	Dan Roethemeyer	Affirmative	View
5	East Kentucky Power Coop.	Stephen Ricker	Affirmative	
5	Energy Northwest - Columbia Generating Station	Doug Ramey	Affirmative	
5	Entegra Power Group, LLC	Kenneth Parker	Affirmative	
5	Entergy Corporation	Stanley M Jaskot	Affirmative	
5	FirstEnergy Solutions	Kenneth Dresner		
5	Florida Municipal Power Agency	David Schumann	Affirmative	
5	Green Country Energy	Greg Froehling	Affirmative	
5	Horizon Wind Energy	Brent Hebert	Affirmative	
5	Indeck Energy Services, Inc.	Rex A Roehl	Negative	View
5	JEA	Donald Gilbert	Abstain	
5	Kansas City Power & Light Co.	Scott Heidtbrink	Negative	View
5	Kissimmee Utility Authority	Mike Blough	Affirmative	
5	Lakeland Electric	Thomas J Trickey	Affirmative	
5	Liberty Electric Power LLC	Daniel Duff	Negative	View
5	Lincoln Electric System	Dennis Florom	Affirmative	
5	Louisville Gas and Electric Co.	Charlie Martin	Affirmative	
5	Luminant Generation Company LLC	Mike Laney	Affirmative	
5	Manitoba Hydro	Mark Aikens		
5	Massachusetts Municipal Wholesale Electric Company	David Gordon	Affirmative	
5	New Harquahala Generating Co. LLC	Nicholas Q Hayes		
5	New York Power Authority	Gerald Mannarino		
5	Northern Indiana Public Service Co.	Michael K Wilkerson	Affirmative	
5	Otter Tail Power Company	Stacie Hebert	Abstain	
5	PacifiCorp	Sandra L. Shaffer	Affirmative	
5	Portland General Electric Co.	Gary L Tingley		
5	PowerSouth Energy Cooperative	Tim Hattaway	Affirmative	
5	PPL Generation LLC	Mark A Heimbach		
5	Progress Energy Carolinas	Wayne Lewis	Affirmative	
5	PSEG Power LLC	David Murray		
5	Public Utility District No. 1 of Lewis County	Steven Grega	Negative	View
5	Reedy Creek Energy Services	Bernie Budnik	Negative	
5	RRI Energy	Thomas J. Bradish	Negative	View
5	Sacramento Municipal Utility District	Bethany Wright	Affirmative	
5	Salt River Project	Glen Reeves	Affirmative	
5	San Diego Gas & Electric	Daniel Baerman	Abstain	
5	Seattle City Light	Michael J. Haynes	Affirmative	View
5	Seminole Electric Cooperative, Inc.	Brenda K. Atkins	Affirmative	
5	South Carolina Electric & Gas Co.	Richard Jones	Affirmative	
5	South Mississippi Electric Power Association	Jerry W Johnson	Affirmative	
5	Southern Company Generation	William D Shultz	Affirmative	
5	Tampa Electric Co.	RJames Rocha	Affirmative	
5	Tenaska, Inc.	Scott M. Helyer	Negative	
5	Tennessee Valley Authority	George T. Ballew	Affirmative	
5	TransAlta Centralia Generation, LLC	Joanna Luong-Tran	Negative	View
5	Tri-State G & T Association, Inc.	Barry Ingold	Negative	
5	U.S. Army Corps of Engineers Northwestern Division	Karl Bryan	Affirmative	
5	U.S. Bureau of Reclamation	Martin Bauer P.E.	Negative	View
5	Wisconsin Electric Power Co.	Linda Horn	Negative	View
5	Wisconsin Public Service Corp.	Leonard Rentmeester	Affirmative	
5	Xcel Energy, Inc.	Liam Noailles	Affirmative	
6	AEP Marketing	Edward P. Cox	Negative	View
6	Ameren Energy Marketing Co.	Jennifer Richardson	Affirmative	
6	Bonneville Power Administration	Brenda S. Anderson	Affirmative	
6	Cleco Power LLC	Matthew D Cripps	Affirmative	
6	Consolidated Edison Co. of New York	Nickesha P Carrol		
6	Constellation Energy Commodities Group	Brenda Powell	Negative	View
6	Dominion Resources, Inc.	Louis S Slade	Affirmative	
6	Duke Energy Carolina	Walter Yeager	Affirmative	
6	Entergy Services, Inc.	Terri F Benoit	Affirmative	

6	Eugene Water & Electric Board	Daniel Mark Bedbury	Affirmative	
6	Exelon Power Team	Pulin Shah	Affirmative	
6	FirstEnergy Solutions	Mark S Travaglianti	Affirmative	View
6	Florida Municipal Power Agency	Richard L. Montgomery	Affirmative	
6	Florida Municipal Power Pool	Thomas E Washburn	Affirmative	
6	Florida Power & Light Co.	Silvia P Mitchell	Affirmative	
6	Great River Energy	Donna Stephenson	Affirmative	
6	Kansas City Power & Light Co.	Jessica L Klinghoffer	Negative	View
6	Lakeland Electric	Paul Shipps	Affirmative	
6	Lincoln Electric System	Eric Ruskamp	Affirmative	
6	Louisville Gas and Electric Co.	Daryn Barker		
6	Luminant Energy	Brad Jones	Affirmative	
6	Manitoba Hydro	Daniel Prowse	Affirmative	
6	New York Power Authority	Thomas Papadopoulos		
6	Northern Indiana Public Service Co.	Joseph O'Brien	Affirmative	
6	Omaha Public Power District	David Ried	Affirmative	
6	OTP Wholesale Marketing	Bruce Glorvigen	Affirmative	
6	Progress Energy	John T Sturgeon	Affirmative	
6	PSEG Energy Resources & Trade LLC	James D. Hebson	Affirmative	
6	Public Utility District No. 1 of Chelan County	Hugh A. Owen	Abstain	
6	RRI Energy	Trent Carlson	Negative	View
6	Santee Cooper	Suzanne Ritter	Affirmative	
6	Seattle City Light	Dennis Sismaet	Affirmative	View
6	Seminole Electric Cooperative, Inc.	Trudy S. Novak	Affirmative	
6	South Carolina Electric & Gas Co.	Matt H Bullard	Affirmative	
6	Tennessee Valley Authority	Marjorie S. Parsons	Affirmative	
6	Western Area Power Administration - UGP Marketing	John Stonebarger	Negative	View
6	Xcel Energy, Inc.	David F. Lemmons	Affirmative	
8		James A Maenner	Affirmative	
8		Roger C Zaklukiewicz	Affirmative	
8		Kristina M. Loudermilk		
8		Merle Ashton	Affirmative	
8	Ascendant Energy Services, LLC	Raymond Tran	Affirmative	
8	JDRJC Associates	Jim D. Cyrulewski	Affirmative	
8	Pacific Northwest Generating Cooperative	Margaret Ryan	Abstain	
8	Power Energy Group LLC	Peggy Abbadini		
8	SPS Consulting Group Inc.	Jim R Stanton	Negative	View
8	Utility Services, Inc.	Brian Evans-Mongeon	Negative	View
8	Volkmann Consulting, Inc.	Terry Volkmann	Affirmative	
9	California Energy Commission	William Mitchell Chamberlain	Affirmative	View
9	Commonwealth of Massachusetts Department of Public Utilities	Donald E. Nelson	Affirmative	
9	National Association of Regulatory Utility Commissioners	Diane J. Barney		
9	Oregon Public Utility Commission	Jerome Murray	Abstain	View
9	Public Service Commission of South Carolina	Philip Riley	Affirmative	
9	Utah Public Service Commission	Ric Campbell	Affirmative	
10	Florida Reliability Coordinating Council	Linda Campbell	Abstain	
10	Midwest Reliability Organization	Dan R. Schoenecker	Affirmative	View
10	New York State Reliability Council	Alan Adamson	Affirmative	
10	Northeast Power Coordinating Council, Inc.	Guy V. Zito	Affirmative	
10	ReliabilityFirst Corporation	Jacquie Smith		
10	SERC Reliability Corporation	Carter B Edge	Affirmative	
10	Western Electricity Coordinating Council	Louise McCarren	Affirmative	View

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Minutes
Board of Trustees

November 5, 2009 | 8–11 a.m.
The Ritz Carlton
181 Peachtree Street, Northeast
Atlanta, GA 30303
(404) 659-0400

Chairman John Q. Anderson called to order a duly noticed meeting of the North American Electric Reliability Corporation Board of Trustees on November 5, 2009 at 8 a.m., local time, and a quorum was declared present. Chairman Anderson provided an update on the NERC CEO. The announcement, agenda, and list of attendees are attached as **Exhibits A, B**, and **C** respectively.

NERC Antitrust Compliance Guidelines

David Cook, vice president and general counsel, directed participants' attention to the NERC Antitrust Compliance Guidelines included in the agenda.

Executive Session

Chairman Anderson reported that, as is its custom, the board met in executive session before the open meeting, without the chief executive officer present, to review management activities.

Consent Agenda

On motion of President and CEO Rick Sergel, the board approved the consent agenda, as follows:

Minutes

The board approved the following draft minutes (**Exhibit D**):

- August 5, 2009
- October 16, 2009

Committee Membership Appointments and Changes

The board approved the proposed appointments and changes to the membership of the standing committees. The board also approved the proposed change to the OC committee charter. (**Exhibit E**.)

Future Meetings
The board approved November 3–4, 2010 (W–Th) in Atlanta, GA as a future meeting date and location, as well as noting the May 2010 meeting dates and location have been changed to May 11-12, 2010 in Baltimore, MD.

President's Report

Rick Sergel's last report focused on the reality of the necessity of ensuring the reliability of the bulk power system. As stated in his report: "The loss of the reliable delivery of electricity to our homes and businesses has got to be near the top—and I would argue above the loss of any of our other critical infrastructures."

Mr. Sergel noted that at a very basic level, we rely on electricity-dependent technology to communicate, to learn, to work, and to play. Electricity enables national security, mobility, health care, finance, manufacturing and entertainment. It is so engrained into our way of life that we take it for granted at every turn. We are way beyond the light bulb.

Further, Mr. Sergel stated: "The progress of society has been possible because of your demonstrated ability to keep the lights on, all day, every day. You have operated the system reliably for decades, and there is no doubt in my mind that we can continue to do so for many years to come. You are the victims of your own success."

Mr. Sergel then addressed the next task, which is to appropriately identify the next list of issues that must be addressed. Issues such as CIP-002—the identification of critical assets and critical cyber assets across the system, as well as transmission siting, climate legislation, the integration of variable generation, "smart" grid, workforce issues, and reactive power.

Mr. Sergel ends his report with this thought:

> It is my vision that this organization would continue to provide leadership and take responsible positions on the many issues facing our industry in the months and years to come. The self-regulatory model is an incredibly powerful concept. Don't lose sight of what we've built together over the past four years. We are able to do things at NERC that no other organization can do—we have the capacity to build consensus within an incredibly diverse industry. We have the support of and access to literally thousands of experts across North America. We've developed an independent voice and a high degree of credibility with policy makers and the media. When NERC speaks, people listen.
>
> Stay true to the mission of ensuring reliability. Build and operate a system that continues to serve this organization's true stakeholders—the people of North America—so they can continue to take us all for granted for many years to come.

Mr. Sergel's complete report is attached as **Exhibit F**.

Status of 2009 Goals and Objectives

Rick Sergel provided an update on the 2009 Goals and Objectives and suggested to the board that this be an ongoing agenda item at future meetings and that it be a parallel effort with the Member Representatives Committee so they may provide advice at their meetings and/or on calls as well. Chairman Anderson requested the Secretary note the suggestion.

Reliability Standards
Maureen Long, standards process manager, gave a presentation on the Reliability Standards Program (**Exhibit G**) and presented the following items for board action.

Interpretations
Following extended discussion of the several interpretations up for consideration, as well as the procedures for consideration of interpretations, on motion of Rick Sergel, the board adopted the following resolution:

WHEREAS, the NERC Board of Trustees has considered the record of development of a number of proposed interpretations of reliability standards, the discussion and recommendations from the November 4, 2009 conference on interpretations, and the recommendation of NERC management,

RESOLVED, that the NERC Board of Trustees approves the following proposed interpretations of Reliability Standards:

1. Interpretation of Requirement 1 of PRC-005-1
2. Interpretations of Requirement R3 of TOP-005-1 and Requirement R12 of IRO-005-1
3. Interpretation of Requirement R2 of CIP-007-1
4. Interpretation of Requirement R1.3.10 of TPL-002-0
5. Interpretation of Requirements R2 and R8 of MOD-001-1 and Requirements R5 and R6 of MOD-029-1;

FURTHER RESOLVED, that the NERC Board of Trustees provides the following guidance regarding interpretations and the interpretations process:

a. In deciding whether or not to approve a proposed interpretation, the board will use a standard of strict construction and not seek to expand the reach of the standard to correct a perceived gap or deficiency in the standard;

b. It is the expectation of the board (i) that when work on an interpretation reveals a gap or deficiency in a reliability standard, stakeholders will take prompt action to address the gap or deficiency in the standard and (ii) that the time and effort expended on the interpretation should be a relatively small proportion of the time and effort expended on addressing the gap or deficiency;

c. Priority should be given to addressing deficiencies or gaps in standards that pose a significant risk to the reliability of the bulk power system — addressing the gaps and deficiencies identified in Reliability Standard PRC-005 should be given such priority, and the Standards Committee should report on its plans and progress in that regard at the board's February 2010 meeting;

d. The Standards Committee should ensure that the comments by NERC staff and other stakeholders on the proposed interpretations are considered by the standard drafting team in addressing any identified gaps and deficiencies, with a report back to the board on the disposition of those comments;

e. The number of registrants that might end up in non-compliance or the difficulty of compliance are not appropriate inputs to an interpretation process, although those inputs may well be appropriate considerations in a standard development process and development of an implementation plan;

f. Requests for a decision on how a reliability standard applies to a registered entity's particular facts and circumstances should not be addressed through the interpretations process.

Reliability Standards Development Procedure — Version 7
Following a presentation by Maureen Long of proposed revisions to the NERC standards development procedure and discussion by the trustees, on motion of Rick Sergel, the board adopted the following resolution:

RESOLVED, that the NERC Board of Trustees approves the proposed revisions set forth in Version 7 of the Reliability Standards Development Procedure.

Reliability Standards Development Plan: 2010-2012
Following a presentation by Maureen Long of the revised Reliability Standards Development Plan and discussion by trustees, on motion of Fred Gorbet, the board adopted the following resolution:

RESOLVED, that the NERC Board of Trustees approves the proposed 2010-2012 Reliability Standards Development Plan.

The board also endorsed the work of the ad hoc task force considering a risk-based approach to standards, encouraged the task force to continue its work, and asked for a further report at the February 2010 board of trustees meeting.

Project 2009-18 — Withdrawal of MISO Waivers
Following a presentation by Maureen Long regarding the MISO waivers issue, on motion of Ken Peterson, the board adopted the following resolution:

WHEREAS, Reliability Standards INT-003-2 — Interchange Transaction Implementation and BAL-006-1 — Inadvertent Interchange contain certain waivers previously granted to the Midwest Independent System Operator; and

WHEREAS, the Midwest Independent System Operator has become a Balancing Authority and has stated it no longer needs those waivers; and

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Approved Minutes
Standards Committee

Wednesday, January 13, 2010 | 8–5 p.m.
Thursday, January 14, 2010 | 8–noon

A regular meeting of the Standards Committee was held on Wednesday January 13, 2010 from 8:00 a.m.–5:00 p.m. and Thursday, January 14, 2010 from 8:00 a.m.–noon. The agenda, attendance list, and meeting announcement are affixed as **Exhibits A, B, and C** respectively.

Administrative

Introductions
Standards Committee Chair Allen Mosher led the introduction of committee members and observers and determined there was a quorum.

NERC Antitrust Compliance Guidelines
Maureen Long reviewed the NERC Antitrust Compliance Guidelines with the committee.

Election of Officers and At-large Executive Committee Members
Linda Campbell motioned the Standards Committee to approve the recommendation for officers and at-large executive committee members:
Officers for 2010:

Allen Mosher — Chair
Ben Li — Vice Chair

Three at-large members of the Executive Committee:

Michael Gildea
David Kiguel
Jason Shaver

- *The motion was approved without objection or abstention.*

Meeting Agenda
Mike Gildea motioned to approve the agenda as revised.

- *The motion was approved without objection or abstention.*

Waiver of 10-day rule
Steve Rueckert motioned to waive the 10-day rule.

– *The motion was approved without objection or abstention.*

Consent Agenda

Approve the Consent Agenda

David Kiguel motioned to approve the consent agenda:

i) December 3, 2009 Meeting Minutes
ii) Project 2007-11 — Disturbance Monitoring — appoint a vice chair to the team
iii) Project 2007-01 — Underfrequency Load Shedding — appoint a vice chair to the team
iv) Communications and Planning Subcommittee — replace a member on the subcommittee
v) Project 2007-18 — Acknowledge the addition of ERCOT to the Reliability-based Control Field Test

– *The motion was approved without objection or abstention.*

Nominations

Status of Drafting Team Vacancies

David Taylor reported that there were no new additions to the vacancies list and no changes to the report. The current list of drafting team vacancies is available at the following link:

http://www.nerc.com/filez/standards/drafting_team_vacancies.html

Standards Activities Status Report

Update on Status Standards Projects

David Taylor provided an update on the status of the standards projects under development and reviewed the upcoming work anticipated over the next three months.

Since the last December Standards Committee meeting NERC has received 6 new interpretations that are currently posted:

Project 2009-27 — Interpretation of TOP-002-2a R10 by FMPP
Project 2009-28 — Interpretation of EOP-001-1 and EOP-001-2 R2.2 by FMPP
Project 2009-29 — Interpretation of TOP-002-2a R6 by FMPP
Project 2009-30 — Interpretation of PRC-001-1 R1 by WPSC
Project 2009-31 — Interpretation of TOP-001-1 R8 by FMPP and
Project 2009-32 — Interpretation of EOP-003-1 R3 and R5 by FMPP

There are currently 16 interpretations projects under development and about 30 standards projects under development. FERC has taken more than a year to act on some pending interpretations.

Prioritization of Projects for 2010

David Taylor provided the Standards Committee with a recommendation for prioritization for the 2010 projects. David provided a list of the top 12 projects to be initiated in 2010. The top 5 projects must be initiated by April 2010, followed by the Results-based Project. The committee supported the approach to prioritization. With respect to the Results-based Project, the committee clarified that

this is not a separate project but rather a project that needs to be applied against all projects under development

Linda Campbell motioned the Standards Committee to approve the selection of FAC-003-1 Vegetation Management as a standard that reflects use of the Results-based Process and ask the SDT to develop a schedule to meet the August 31 deadline for finishing the ballot. Also, ask the team to bring a project schedule back to the February SC meeting.

- *The motion was approved without any objection one abstention — Frank McElvain.*

The ad hoc group will continue to work with the Vegetation Management SDT. The committee requested the SDT develop a schedule to meet the August 1st deadline to ballot.

The Process Subcommittee and Ad Hoc team will coordinate efforts to develop an implementation plan for results-based standards and identify what will be used to judge standards in the future.

The committee confirmed that the group of standards identified in the attachment are appropriate candidates for application of the results-based standards approach and will be further discussed at the February Standards Committee meeting to make final selections.

Status of Revising the Definition of Protection Systems
Linda Campbell motioned the Standards Committee to ask the SDT to update the implementation plan and post the definition ahead of the work on PRC-005

- *The motion was not approved with the following objections — David Kiguel, John Martinsen, Alice Murdock, Raj Rana, Jim Stanton, Terry Bilke, and Jason Shaver and no abstentions.*

Carol Sedewitz motioned the Standards Committee to ask the SDT return to the February meeting with a schedule on how they would advance the definition protection system separately from the standard and provide a report at the February Standards Committee meeting.

- *The motion was withdrawn.*

Linda Campbell motioned the Standards Committee direct the SDT to advance the definition in parallel with the development of the standard and develop an implementation plan to address the compliance concerns identified in the e-mail from Charles Rodgers relative to applying the definition to PRC-005-1 and bring the report back to the February Standards Committee meeting.

- *The motion was approved with three objections — Alice Murdock, Raj Rana, and Jason Shaver and two abstentions — Carol Sedewitz and David Kiguel*

Project 2008-06 — Cyber Security — Should the SC Provide Addition Details on Balloting
Allen Mosher recommended having a small task force specifically to assist the Cyber Security Standard Drafting Team in managing any process issues that come up over the next year. The task force, consisting of Mike Gildea, Allen Mosher, David Taylor, and Jason Shaver will help with the Cyber Security Standard Drafting Team and report back to the Standards Committee at each meeting.

The Process Subcommittee will discuss the specific process issue and report back to the Standards Committee at the February meeting with a recommendation regarding the ballot details.

Standards Actions

Authorize Posting a SAR for Project 2008-02 — UVLS and Direct Staff to Solicit Drafting Team Nominations

Steve Rueckert motioned the Standards Committee to authorize posting the SAR and direct staff to solicit nominations for a SAR drafting team.

- *The motion was approved without objection or abstention.*

Authorize Posting a SAR for Functional Model Glossary Changes

Linda Campbell motioned the Standards Committee to post the SAR after the purpose is modified to link to the compliance registration criteria and the Interchange Coordinator definition is removed. Also, direct the Coordinate Interchange SDT to address the Interchange Coordinator definition.

- *The motion was approved without objection or abstention.*

Jim Cyrelewski, the SAR requester, approved the modification to the SAR. The implementation plan should also take into consideration the time needed to obtain changes to the compliance registration criteria.

Authorize posting a SAR for revisions to PRC-001 — System Protection Coordination

Jason Shaver motioned the Standards Committee to post the SAR as a supplemental SAR with Project 2007-06 — System Protection Coordination and add the work, if supported by stakeholders, to the work already underway to revise PRC-001.

- *The motion was approved without objection or abstention.*

Authorize Posting a SAR for Revisions to EOP-004 — Disturbance Reporting

Linda Campbell motioned the Standards Committee to accept the recommendation, reject the SAR and add the work, as an issue for consideration by the existing drafting team working to revise EOP-004 and invite the requester to participate in the deliberations if they choose. In the letter explaining the reasons for rejecting the SAR, thank the requester for submitting the suggestion and encourage the use of the "Comments and Suggestions" form in the future.

- *The motion was approved without objection or abstention.*

Authorize Posting a SAR for a New Standard on Turbine Controls

Ben Li motioned the Standards Committee to reject the SAR and add the issue to the work assigned to the Generator Verification SDT assisted by the System Protection Control Subcommittee. In the letter explaining the reasons for rejecting the SAR, thank the requester for submitting the suggestion and encourage the use of the "Comments and Suggestions" form in the future. Also, ask the drafting team and the SPCS to report back to the Standards Committee on whether the issue can be addressed by the existing project team or needs to be addressed by another mechanism.

- *The motion was approved without objection or abstention.*

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Revised Agenda
Standards Committee

Wednesday, January 13, 2010 | 8–5 p.m.
Thursday, January 14, 2010 | 8–noon
Dial-in Number: 866-740-1260
Participant Code: 4685998

1. **Administrative Items**
   a. Introductions and Quorum — A. Mosher **(Attachment 1a)**
   b. NERC Antitrust Compliance Guidelines — M. Long **(Attachment 1b)**
   c. Election of Officers and At-large Executive Committee Members — M. Long
   d. Review of Action Items — A. Mosher **(Attachment 1d)**
   e. Meeting Agenda **[Approve]** — A. Mosher
   ~~e.~~ f. Waiver of 10-day rule **[Approve]** — A. Mosher

2. **Consent Agenda (Approve)**
   a. December 3, 2009 Meeting Minutes **[Approve] (Attachment 2a)**
   b. Project 2007-11 — Disturbance Monitoring **[Appoint] (Attachment 2b — confidential)**
   c. Project 2007-01 — Underfrequency Load Shedding **[Appoint] (Attachment 2c — confidential)**
   d. Replace a member of the Communications and Planning Subcommittee **[Appoint] (Attachment 2d — confidential)**
   e. Project 2007-18 — Acknowledge the addition of ERCOT to the Reliability-based Control Field Test **[Acknowledge] (Attachment 2e)**

3. **Nominations** — D. Taylor
   a. Status of Drafting Team Vacancies **(Attachment 3a)**

4. **Standards Activities Status Reports** — D. Taylor
   a. Update on Standards Projects **(Attachments 4ai and 4aii)**
   b. Prioritization of Projects for 2010 **(Attachments 4b)**
   c. Status of revising the definition of Protection Systems
   d. Project 2008-06 — Cyber Security — Should the SC Provide Additional Details on Balloting — J. Shaver

5. **Standards Actions** — M. Long
   - **a.** Authorize posting a SAR for Project 2008-02 — UVLS and direct staff to solicit drafting team nominations **(Attachment 5a — to be sent separately)**
   - **b.** Authorize posting a SAR for FM Glossary Changes **(Attachment 5b)**
   - **c.** Authorize posting a SAR for revisions to PRC-001 — System Protection Coordination **(Attachment 5c)**
   - **d.** Authorize posting a SAR for revisions to EOP-004 — Disturbance Reporting **(Attachment 5d)**
   - **e.** Authorize posting a SAR for a new standard on Turbine Controls **(Attachment 5e)**
   - **f.** Authorize work on the scope for Functional Model Version 6 **(Attachment 5f)**
   - **g.** Authorize posting the Standards Process Manual for stakeholder comment **(Attachment 5gi and 5gii)**
   - **h.** Approve a revised SC Charter for submission to the NERC Board of Trustees **(Attachment 5h)**
   - **i.** Approve proposed revisions to Errata Procedure **(Attachment 5i)**
   - **j.** Approve proposed communications plan for results-based standards project **(Attachment 5j — to be sent separately)**
   - **k.** Approve posting the Functional Model Version 5 and the Functional Model Technical Document Version 5

6. **Coordination and Subcommittee Reports**
   - **a.** Coordination with FERC and other regulatory authorities — G. Adamski
   - **b.** Coordination with Regional Managers — T. Gallagher
   - **c.** Report from Communications and Planning Subcommittee — R. Rana **(Attachment 6c — to be sent separately)**
   - **d.** Report from Process Subcommittee — B. Li **(Attachment 6d — to be sent separately)**
     - i) Update on VRF Tool and Criteria — T. Bilke **(Attachment 6ei and 6eii — to be sent separately)**

7. **Discussion Items**
   - **a.** SC Goals for 2010 — A. Mosher **(Attachment 7a)**
   - **b.** Increase in fees for certification test — T. Bradish
   - **c.** FERC Order Granting PG&E's Petition for a Declaratory Order — T. Bilke **(Attachment 7c)**

8. **Executive Committee Actions** — M. Long
   - **a.** Items expected to come before the Standards Committee's Executive Committee before February 11, 2010 **[Pre-authorize]**
     - i) 4th Quarter Ballot Results Report — Approve the report
     - ii) Project 2006-02 — Authorize moving TPL-001-1 forward to the ballot stage of the process
     - iii) Authorize posting a SAR for GO/TO clarifications in identified standards and direct staff to solicit nominations for a drafting team

9. Review of New Action Items

10. Adjourn

1. Administrative Items

a. Introductions — Outgoing Standards Committee Vice Chair Allen Mosher will lead the introduction of committee members and determine if there is a quorum.

b. NERC Antitrust Compliance Guidelines — Maureen Long will review the NERC Antitrust Compliance Guidelines provided in **Attachment 1b**. It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition. It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

c. Election of Officers and At-large Executive Committee Members
The nominating committee of John Anderson and Linda Campbell put together the following slate of officers for 2010:

Allen Mosher — Chair
Ben Li — Vice Chair

and the following slate of candidates for the three at-large members of the Executive Committee:

Michael Gildea
David Kiguel
Jason Shaver

The committee will be asked to approve both slates of nominees.

d. Review of Action Items — A. Mosher (Attachment 1d)
Allen Mosher will review the action items list with the committee.

~~d.~~**e. Meeting Agenda** — A. Mosher
Allen Mosher will review the meeting agenda and ask for modifications before the agenda is approved.

~~e.~~**f. Waiver of 10-day rule** — If there are items submitted to the Standards Committee for action with less than 10 days notice, those items cannot be added to the agenda without the unanimous consent of the members present. If any items fall into this category Scott Henry will ask the Standards Committee to vote on waiving the 10-day rule.

2. Consent Agenda

a. Approve the Consent Agenda

The consent agenda allows the Standards Committee to approve routine items that would normally not need discussion. Any Standards Committee member may ask the chair to remove an item from the consent agenda for formal discussion.

The chair will ask the committee to approve or ratify the following from the consent agenda:

i) December 3, 2009 Meeting Minutes
ii) Project 2007-11 — Disturbance Monitoring — appoint a vice chair to the team
iii) Project 2007-01 — Underfrequency Load Shedding — appoint a vice chair to the team
iv) Communications and Planning Subcommittee — replace a member on the subcommittee
v) Project 2007-18 — Acknowledge the addition of ERCOT to the Reliability-based Control Field Test

3. Nominations — D. Taylor

a. Status of Drafting Team Vacancies
David Taylor will review the status of current drafting team vacancies.

4. Standards Activities Status Report — D. Taylor

a. Update on Status Standards Projects
David Taylor will provide an update on the status of the standards projects under development and will review the upcoming work anticipated over the next three months.

b. Prioritization of Projects for 2010
During the December 2009 Standards Committee meeting, the SC asked David Taylor to provide a recommendation for prioritizing the list of projects scheduled to start in 2010. The SC will discuss the recommended prioritization.

c. Status of Revising the Definition of Protection Systems
During the November 2009 Board of Trustees meeting, the board directed the Standards Committee to provide a report (due February 2010) on the status of work to revise the definition of "Protection System." Charles Rogers, the chair of the interpretation drafting team that highlighted the reliability gap caused by the existing definition – and chair of the drafting team that is working with stakeholders to revise the definition, provided the following status:

The Protection System Maintenance and Testing SDT posted a proposal for a revised definition of "Protection System" from July 24, 2009 through September 8, 2009. There were 55 sets of comments, including comments from more than 130 different people from over 75 companies. Some entities suggested improvements to the proposed definition, and the drafting team will post the revised definition for what it believes will be a "final" 30-day comment period before the end of January. The intent is to move the definition forward to ballot in advance of the standard. As part of their research, the drafting team identified five continent-wide and one regional standard that include requirements using the term, "Protection System." The drafting team has confirmed that

the intent of the term will not be changed in any of these six standards if the definition of Protection System is changed as proposed. Three of these standards, however, do not use the capitalized version of the term, and to avoid a potential reliability gap caused by different interpretations of the term, the team is proposing that in these three standards, the term be capitalized.

Assuming the revised definition is posted for 30-days before the end of January, and balloted in March, the revised definition and its implementation plan could be ready to present to the board for adoption in April 2010.

d. Project 2008-06 — Cyber Security — Should the SC Provide Addition Details on Balloting — J. Shaver

Jason Shaver will lead a discussion on potential issues that may need additional clarity with respect to the balloting of the Cyber Security standards.

- What happens if the SDT makes modifications to the standard following the initial balloting or subsequent recirculation balloting?
- If the SDT makes significant modifications to the standards following the initial ballot is their any obligation to do a pre-ballot posting?
- What or who determines when the standard has passed?

Could the SDT determine following an approved recirculation ballot to make additional modifications or is it that once the standards passes the draft team is not allowed to make any additional modifications?

5. Standards Actions — M. Long

a. Authorize Posting a SAR for Project 2008-02 — UVLS and Direct Staff to Solicit Drafting Team Nominations

Background: The UVLS project is one of the projects that in the approved *Reliability Standards Development Plan for 2009-2010.* The project involves revisions to the following two standards and was delayed while waiting for reports. Those reports have been generated and the work is ready to begin:

- PRC-010-0 — Technical Assessment of the Design and Effectiveness of Undervoltage Load Shedding Program
- PRC-022-1 — Under-Voltage Load Shedding Program Performance

Request: Authorize posting the SAR and direct staff to solicit nominations for a SAR drafting team.

b. Authorize Posting a SAR for Functional Model Glossary Changes

Background: The definitions for the terms used to describe functional entities vary when comparing the Functional Model Version 5 with the definitions in the Glossary of Terms used in Reliability Standards. The Functional Model Working Group received many comments suggesting that the definitions be revised to eliminate the differences.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Approved Meeting Minutes
Standards Committee

Thursday, June 10, 2010 | 1–4 p.m. Eastern

Administrative
A regular conference call meeting of the Standards Committee was held on Thursday, June 10th from 1–4:30 p.m. The agenda, attendance list, and meeting announcement are affixed as **Exhibits A, B, and C** respectively.

Introductions and Quorum
Standards Committee Chair Allen Mosher led the introduction of committee members and determined there was a quorum.

NERC Antitrust Compliance Guidelines
Maureen Long reviewed the NERC Antitrust Compliance Guidelines.

Meeting Agenda
Ben Li motioned to approve the agenda.

- *The motion was approved without objection or abstention.*

Waiver of 5-day Rule
John Anderson motioned to waive the 5-day rule.

- *The motion was approved without objection or abstention.*

Consent Agenda
Chris Hajovsky motioned to approve the following items from the consent agenda:

- May 13, 2010 Standards Committee Meeting Minutes
- Project 2008-06 — Cyber Security Order 706 — Appoint Bradley Yeates and William Gross to the Standard Drafting Team to represent nuclear interests.
  - *The motion was approved without objection or abstention.*

Status of High Priority Projects, Activities, and Action Items
Remarks from Gerry Cauley
Gerry Cauley joined the call and encouraged the Standards Committee to continue its work in advancing standard projects such that there is evidence NERC and its stakeholders are making

stakeholder comments, there is not sufficient time to complete this project and meet the FERC-imposed deadline.

Request: Authorize the drafting team to move the standard forward to a concurrent comment period and balloting if the team needs to make significant changes to the standard. Allow the team to make changes between the initial and recirculation ballot.

c. Project 2007-01 — Underfrequency Load Shedding Project — Authorize Concurrent Posting for Comment and Initial Ballot

Background: The Underfrequency Load Shedding Project is one of the Standards Committee's "High Priority" projects that was last reported to the Standards Committee as "at risk" of not meeting its schedule. During its April meeting, the SC authorized all drafting teams working on the "Top Ten" projects that were "behind schedule" to use the following to advance their project schedules:

- Collect and use information from informal feedback which may include informal comment periods
- Make significant changes to a standard following a comment period, before the initiation of the ballot
- Make significant changes between initial and successive ballots.

Since that meeting, FERC has expressed a concern that NERC and its stakeholder community, is not addressing directives in a timely manner.

Request: To demonstrate that it is making a determined effort to address directives, the standards staff requests that the deviations from the standards process that were approved for use with high priority projects that are behind schedule, be authorized for all projects.

d. Project 2007-17 — Protection System Maintenance & Testing — Authorize Concurrent Posting of the Standard and Definition for Comment and Initial Ballot

Background: The Protection System Maintenance and Testing Project is one of the Standards Committee's "High Priority" projects that was last reported to the Standards Committee as "on schedule." The team is working on revisions to PRC-005 — Protection System Maintenance and revisions to the definition of 'Protection System.' The current schedule anticipates following the process in the Reliability Standards Development Procedure — Version 7, with one formal comment period for the definition and two formal comment periods for the revised standard before reaching the ballot stage of the standards development process. If the team were allowed to follow the process in the Standard Processes Manual, the team could advance completion of its work on the proposed definition and on the proposed standard by several months.

Request: To demonstrate that it is making a determined effort to address directives, the standards staff requests that the deviations from the standards process that were approved

for use with high priority projects that are behind schedule, be authorized for Project 2007-17.

e. Project 2007-07 — Vegetation Management — Direct Team to Make Conforming Changes; Authorize Concurrent Posting for Comment and Initial Ballot

Background: The Vegetation Management standard is one of the Standards Committee's "High Priority" projects that was last reported to the Standards Committee as "on schedule." The current schedule anticipates having an informal comment period, followed by concurrent formal comment and balloting. The team has experienced delays in reaching resolution on the acceptability of the last draft of its standard. Both FERC staff and NERC staff have expressed concerns about the proposed draft of the standard, as shown in the Summary Quality Review.

If the team is directed to make conforming changes to its standard to address FERC staff concerns and NERC staff concerns, the team will need time to conduct another meeting and make conforming changes, resulting in project delays. To make up for the project delays, the standards staff recommends that the team be directed to reconsider the advice provided by FERC and NERC staffs and then post its work for a concurrent formal comment period and ballot period, with the ability to make additional changes to the standard between the initial and recirculation ballots.

Request: To demonstrate that it is making a determined effort to address directives in a timely manner, the standards staff requests that the deviations from the standards process that were approved for use with high priority projects that are behind schedule, be authorized for Project 2007-07.

6. Coordination

a. Coordination with FERC and other Regulatory Authorities
Gerry Adamski will provide an update on regulatory activity since the last SC meeting.

b. Coordination with Regional Managers
Tim Gallagher will provide an update on standards-related activities involving the Regions.

7. Other Items

a. Update on developing "Informal Guidance" process — G. Adamski **(Attachment 7ai, 7aii)**
Gerry Adamski will provide an update on work underway to develop an Informal Guidance process as a method of providing stakeholders with answers to questions related to standards.

b. How to Ensure Productive Group Discussions to Reach Consensus — FERC workshop for drafting team chairs and vice chairs — D. Taylor
David Taylor will provide an update on the results of SC member input to the idea of providing drafting team chairs and vice chairs with training provided by FERC staff in conflict resolution skills.

Exhibit C

Standard Drafting Team Roster

Project 2007-17 Protection System Maintenance and Testing Team Roster

1.	**John Anderson** Principal Production Engineer Xcel Energy, Inc.	1518 Chestnut Avenue N. 2nd Floor Minneapolis MN 55403 (612) 630-4630 john.b.anderson@xcelenergy.com
2.	**Merle Ashton** Substation Maintenance Supervisor Tri-State G & T Association, Inc.	9045 Rd 27 Cortez CO 81321 303-254-3762 rashton@tristategt.org
3.	**Bob Bentert** Principal Engineer Florida Power & Light Co.	700 Universe Boulevard Juno Beach FL 33408 (561) 694-3189 bob_bentert@fpl.com
4.	**Samuel Francis** System Protection Specialist Oncor Electric Delivery	115 W. 7th Street Suite 3114 P. O. Box 970 Fort Worth TX 76101 (817) 215-6920 samuel.francis@oncor.com
5.	**Carol Gerou** Standards Manager Mitigation, Reliability Standards, Training and Education Midwest Reliability Organization	2774 Cleveland Avenue N. Roseville MN 55113 (651) 855-1735 ca.gerou@midwestreliability.org
6.	**Russell Hardison** Manager, Transmission Support Dept. Tennessee Valley Authority	1101 Market St. Chattanooga TN 37402 (423) 751-6170 rchardison@tva.gov
7.	**Ervin D. Harper** I&E Specialist NRG Texas Maintenance Services	12307 Kurland Houston TX 77034 713-545-6019 david.harper@nrgenergy.com
8.	**Mark Lukas** T&S Engineering, Real Time Analysis Manager Commonwealth Edison Co.	Two Lincoln Centre 9th Floor Oakbrook Terrace IL 60181-4260 (630) 576-6891 mark.lukas@comed.com
9.	**Al McMeekin** Standards Development Coordinator NERC	116-390 Village Boulevard Princeton NJ 08540-5721 (609) 452-8060 al.mcmeekin@nerc.net
10.	**Mark Peterson** Supervisor, Operations Engineering Great River Energy	17845 East Highway 10 Elk River MN 55330 mpeterson@grenergy.com

11. **Charles W. Rogers**
Principal Engineer
Consumers Energy

1945 W. Parnall Road
Jackson, Michigan 49201
(517) 788-0027
cwrogers@cmsenergy.com

12. **William D. Shultz**
Principal Engineer - Supervisor
Southern Company Generation

42 Inverness Center Parkway
Mail Bin B425
Birmingham AL 35242
(205) 992-5526
wdshultz@southernco.com

13. **Leonard Swanson**
Protection Standards and Support
National Grid USA

D-1, 300 Erie Boulevard West
Syracuse NY 13202
(315) 428-5250
leonard.swanson@us.ngrid.com

14. **Eric Udren**
Executive Advisor, Quanta Technology
Expert
Quanta Technology

4020 Westchase Blvd., Suite 300
Raleigh, North Carolina 27607
919-334-3000
eudren@quanta-technology.com

15. **Philip B. Winston**
Chief Engineer
Southern Company

62 Like Mirror Road
Bin # 50061
Forest Park, Georgia 30297
(404) 608-5989
pbwinsto@southernco.com

16. **John Zipp**
Senior Staff Engineer
ITC Holdings

39500 Orchard Hill Place
Novi MI 48375
(248) 374-7049
jzipp@itctransco.com