

## Consideration of Comments on First Draft of Relay Loadability SAR

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### Background:

The Relay Loadability SAR Drafting Team thanks all commenters who submitted comments on the first draft of the SAR for Relay Loadability. This SAR was posted for a 30-day public comment period from January 16, 2006 - February 15, 2006. The SAR DT asked stakeholders to provide feedback on the SAR through a special SAR Comment Form. There were 17 sets of comments, including comments from more than 64 different people from more than 41 companies representing 6 of the 9 Industry Segments as shown in the table on the following pages.

Based on the comments received, the drafting team is recommending that the Standards Authorization Committee authorize moving this SAR forward to standard drafting.

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 SAR can be viewed in their original format at:

[ftp://www.nerc.com/pub/sys/all\\_updl/standards/sar/SAR\\_Relay\\_Loadability\\_Comments.pdf](ftp://www.nerc.com/pub/sys/all_updl/standards/sar/SAR_Relay_Loadability_Comments.pdf)

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, Gerry Cauley at 609-452-8060 or at [gerry.cauley@nerc.net](mailto:gerry.cauley@nerc.net). In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

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<sup>1</sup> The appeals process is in the Reliability Standards Process Manual: <http://www.nerc.com/standards/newstandardsprocess.html>.

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Organization	Industry Segment								
		1	2	3	4	5	6	7	8	9
William J. Smith	Allegheny Power	x								
Ken Goldsmith	ALT									
Peter Burke	ATC	x								
Dave Rudolph	BEPC									
Jeffrey T. Baker	Cinergy	x		x			x			
Alan Gale	City of Tallahassee					x				
Edwin Thompson	ConEdison	x								
Charles W. Rogers	Consumers Energy Company			x	x					
Carl Kinsley	Delmarva Power and Light	x								
Ed Davis	Entergy Services	x								
John Mulhausen	FPL	x								
John Odom	FRCC		x							
Linda Campbell	FRCC		x							
Phil Winston	Georgia Power			x						
Dick Pursley	GRE									
David Kiguel	Hydro One Network	x								
Ron Falsetti	IESO (Ontario)		x							
Kathleen Goodman	ISO-New England		x							
Dennis Florom	LES									
Donald Nelson	MA Dept of Energy and Tele.									
Sashi Parekh	MA Dept of Energy and Tele.									
Tom Mielnik	MEC									
Robert Coish	MHEB									
Terry Bilke	MISO		x							
Joe Knight	MRO		x							
Michael Shiovone	National Grid	x								
Bill Bojorquez	NERC Standards Evaluation Subcommittee									
Greg Campoli	New York ISO		x							
James W. Ingleson	New York ISO		x							
George Dunn	New York Power Authority	x								
Alan Adamson	New York State Rel. Council		x							
Brian Hogue	NPCC		x							
Guy Zito	NPCC		x							
Alan Boesch	NPPD	x								
Todd Gosnell	OPPD									
Mark Kuras	PJM		x							

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Alvin Depew	Potomac Electric Power Co	x												
Evan Sage	Potomac Electric Power Co	x												
Richard Kafka	Potomac Electric Power Co	x												
Wayne Guttormson	SaskPower	x												
Garl Zimmerman	SECI						x							
Roland Stafford	SECI					x								
Steve Wallace	SECI					x								
Jim Busbin	Southern Company Services	x												
Jim Viikinsalo	Southern Company Services	x												
Marc M. Butts	Southern Company Services	x												
Wayne Guttormson	SPC													
Roger Champagne	TransEnergie (Quebec)	x												
Bill Middaugh	Tri-State Generation and Transmission Association, Inc.	x												
Darrick Moe	WAPA													
Jim Maenner	WPS													
Pam Oreschnick	XEL													

**Index to Questions, Comments and Responses**

1. Do you agree there is a reliability need for a standard addressing relay loadability? .....5

2. Do you agree with the proposed scope of the SAR? ..... 10

3. Do you agree with the proposed applicability of the SAR? ..... 17

4. Are you aware of any commercial considerations that might require a concurrent NAESB action associated with the proposed SAR?.....22

5. Should the scope of the proposed SAR include relays associated with generators? .....25

6. Are you aware of any regional differences that should be identified as part of the development of the standard?.....30

7. Do you have any additional comments on this SAR you would like to include? .....33

## Consideration of Comments on First Draft of Relay Loadability SAR

### 1. Do you agree there is a reliability need for a standard addressing relay loadability?

**Summary Consideration:** Almost all commenters indicated that they believe there is a reliability need for a standard that addresses relay loadability. Some commenters indicated that the working paper is too prescriptive - the level of detail to be provided in the final standard will be determined based on stakeholder comments. Some commenters indicated that this topic is already addressed with the TPL series of standards, but history has shown that the TPL standards, by themselves, are not sufficient to ensure that relays will be set to prevent contributing to cascading outages

Commenter	Yes	No	Comment
PJM (2) Mark Kuras		✓	Installation and coordination of relays is not something that should be dealt with with national standards. Not even sure what the name of the SAR/Standard means. Relays are not loaded or unloaded. I recommend not moving forward with this SAR. I see no reason to move beyond the work that has already been done.
<p><b>Response:</b> "Relay loadability" refers to the ability of protective relays to not operate for load currents. While the problems are being corrected, continued attention is necessary to prevent reoccurrence. Most commenters who responded to this comment form indicated that a standard is required.</p>			
MRO (2) Jim Maenner Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Darrick Moe – WAPA (2) P. Oreschnick – XEL (2) Dick Pursley – GRE (2) Dave Rudolph – BEPC (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.		✓	The MRO believes that the Relay Loadability is a serious concern and the NERC System Protection and Control Task Force (SPCTF) is to be commended on developing a good GUIDELINE for determining relay loadability settings. Based on the information contained in the Working Paper on a Proposed Transmission Relay Loadability the MRO has reservations on the appropriateness of the working paper becoming a Reliability Standard. The MRO believes that this issue could be adequately addressed through additions to existing standards to consider relay loadability. The highly prescriptive nature of the working paper is not suitable for a Reliability Standard.
<p><b>Response:</b> The level of detail necessary to address this subject suggests that this be covered in a stand alone standard as opposed to being spread across many standards. Most commenters who responded to this comment form indicated that a standard is required. Comments</p>			

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).			
SaskPower (1) Wayne Guttormson		✓	<p>SaskPower believes that this issue is adequately addressed in following standards: TPL-002-0 R1.3.10, TPL-003-0 R1.3.10, and TPL-004-0 R1.3.7; which require the Planning Authority and Transmission Planner to include the effects of existing and planned protection systems in their transmission planning studies in order to evaluate system performance and mitigate any deficiencies.</p> <p>FAC-008-1 and FAC-009-1; which require Transmission Owners (TO) and Generator Owners to have a Facility Ratings Methodology and to Establish and Communicate Facility Ratings. These standards address the most limiting applicable Equipment Rating, including relay protective devices, and applicable Emergency Ratings (if the TO allows emergency overloads).</p> <p>PRC-001 which requires system protection coordination among operating entities. The NERC System Protection and Control Task Force (SPCTF) is to be commended on developing a good GUIDELINE for determining relay loadability settings but SaskPower has serious reservations about its appropriateness for a Reliability Standard based on the information contained in the SAR and the Working Paper on a Proposed Transmission Relay Loadability Standard. The highly prescriptive nature of the working paper is not suitable for a Reliability Standard.</p>
<p><b>Response:</b> The level of detail necessary to address this subject suggests that this be covered in a stand alone standard as opposed to being spread across many. Most commenters who responded to this comment form indicated that a standard is required. Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).</p>			
City of Tallahassee (5) Alan Gale	✓	✓	See comments in 2 below.
<p><b>Response:</b> See response in section 2.</p>			
Consumers Energy (3, 4) Charles W. Rogers	✓		As noted in the SAR, this is an area which has contributed significantly to all major blackouts in North America. Additionally, actions directed by the NERC Planning Committee have resulted in much work on the part of the industry to resolve the problems. It's imperative that the work that has been accomplished is codified and captured within Reliability Standards.
<p><b>Response:</b> Acknowledged.</p>			
FRCC (2) John Odom Linda Campbell John Mulhausen – FPL ( 1) Garl Zimmerman – SECI (5)	✓		A standard addressing relay loadability is necessary to ensure that protection systems are in place to limit or stop cascading outages, while at the same time not adversely affecting the ability to use the transmission system.

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
Steve Wallace – SECI (4) Roland Stafford – SECI (4)			
<b>Response:</b> Acknowledged.			
NERC Standards Evaluation Committee Bill Bojorquez – ERCOT	✓		<p>The SES does believe that there is a need for a standard to address relay loadability. However, the SES urges extreme caution in moving forward with this, or any other, SAR which may arbitrarily impose new requirements on the protection system of the Bulk Electric System. The SES takes note of the first sentence in the background of this SAR Comment form which to the novice reader makes it sound as if protective relays were the cause of both the 1965 and 2003 Blackout. The SES would point out that in most cases, the relays associated with these events responded properly as designed.</p> <p>Protective relaying is as much art as it is science. Also protective relay schemes are designed to work as an integrated system. It is difficult to make what might seem to be a simple beneficial change in one location and not fully consider the negative consequences this might cause in another area. Modern microprocessor relay components have made the job of determining, setting, and testing relays much simpler and more exact than in decades past. Utility personnel have spent countless hours determining the facility ratings, both normal and emergency, and the appropriate protection schemes for their lines, transformers, and other equipment in accordance with the expectations of their stakeholders (regulators, customers, and stockholders). Our bulk electric system, considered the most reliable in the world, is a result of this effort. Great care should be taken when considering blanket changes in how relay systems are designed.</p> <p>Therefore, NERC standards related to relay loading proposed at measures of 150% of emergency rating for a period of 15 minutes may seem extreme to some. The SES questions if the SDT had considered other alternatives such as 120% for 10 minutes for example. The SES commends the SDT for the tremendous effort in bringing a proposed standard for review and looks forward to actively participate in the coming debate over this SAR.</p>
<b>Response:</b> Acknowledged. The drafting team did not intend to imply that protection systems were the cause of the 1965 and 2003 blackouts. Comments relating to specific requirements will be passed on to the Standards Drafting Team for consideration (when convened). The draft standard included in the working paper was intended to provide an example of requirements that could be established within the scope of this SAR, but was not intended to be the final standard.			
MAAC (2) John Horakh	✓		
Pepco Holdings, Inc. (1) Richard Kafka	✓		

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
Evan Sage Alvin Depew Carl Kinsley – Delmarva			
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO Brian Hogue – NPCC Guy Vito – NPCC	✓		
NYISO (2) James Ingleson	✓		
Entergy Services, Inc. (1) Ed Davis	✓		
ISO New England, Inc. (2) Kathleen Goodman	✓		
Southern Co. – Transm. (1) Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)	✓		
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh	✓		



## Consideration of Comments on First Draft of Relay Loadability SAR

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Commenter	Yes	No	Comment
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		
American Transmission Company LLC ATC (1) Peter Burke [on behalf of ATC's Rich Young]	✓		
Allegheny Power (1) William J. Smith	✓		

## Consideration of Comments on First Draft of Relay Loadability SAR

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

**Summary Consideration:** The comments suggest that there is some room for clarification of the proposed requirements as identified in the working paper and some room for clarification with respect to the definition of operationally significant circuits. The SAR drafting team will provide the associated Standard drafting team with these comments.

Commenter	Yes	No	Comment
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO James Ingleson – NYISO Brian Hogue – NPCC Guy Vito – NPCC		✓	NPCC reserves the right as stated in the SAR that determining what circuits are classified as Operationally Significant Circuits is the Region's responsibility. NPCC participating members are not in agreement with the definition as it appears in the "working paper".
<p><b>Response:</b> The definition of operationally significant circuits was not included in the SAR – it was included in the working paper. Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).</p>			
NYISO James Ingleson – NYISO		✓	NPCC reserves the right as stated in the SAR that determining what circuits are classified as Operationally Significant Circuits is the Region's responsibility. NPCC participating members are not in agreement with the definition as it appears in the "working paper".
<p><b>Response:</b> As noted, the definition of operationally significant circuits was not included in the SAR – it was included in the working paper. Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).</p>			
PJM (2) Mark Kuras		✓	NERC should not get involved with this issue. Possibly a simple standard that states that protection systems shall not restrict the normal or the necessary realizable network transfer capabilities of the system is all that's needed.

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
<p><b>Response:</b> The analysis of all major North American blackouts, from 1967 through the current time, illustrates that the industry, left to the ideal you've suggested, will not provide adequate consideration to this issue.</p>			
<p>NERC Standards Evaluation Committee Bill Bojorquez – ERCOT</p>		✓	<p>The SES has concern over the wording of the proposed definition of Operationally Significant Circuits. In the definition proposed, the SDT seems to indicate the determination of Operationally Significant Circuits is the responsibility of the Regional Reliability Organization, but then the definition prescribes what types of circuits are to be included. The SES believes each Region should determine its own Operationally Significant Circuits.</p>
<p><b>Response:</b> The definition of operationally significant circuits was not included in the SAR – it was included in the working paper. Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).</p>			
<p>City of Tallahassee (5) Alan Gale</p>		✓	<p>The scope of the SAR as written is too much. The recommendations sited in the Blackout Reports recommended checking Zone 3 loadability only. The SAR also states that "It is imperative to the continued reliability of the North American power system that the problems of relay loadability remain corrected and that the technical solutions are properly codified in the NERC reliability standards." So from the SAR drafters own point of view, the problem has been fixed. We do not need to impose additional requirements and work on entities that are already doing their part in maintaining a reliable bulk electric system.</p> <p>I agree that we should codify the requirements that we have already met for Zone 3 loadability, but question the cost vs. gain in pursuing this "monumental undertaking" for the lower voltage lines and transformers which will be an even greater undertaking than the previous one.</p>
<p><b>Response:</b> The several reports on the blackout, including the U.S.-Canada Power System Outage Task Force Final Report on the August 14, 2003 Blackout in the United States and Canada, referenced operation of not only zone 3 relays but other load- responsive relays as well. While the problems are being corrected, continued attention is necessary to prevent re-occurrence. The lower voltage lines and transformers are not seen as a monumental undertaking as the operationally significant lines and transformers are expected to be a small subset of the total.</p>			
<p>MRO (2) Jim Maenner Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2)</p>		✓	<p>The MRO is disappointed to see marked up version of the SAR posted on the NERC website. SARs should be in their final format prior to being posted.</p> <p>The MRO questions whether the role of the NERC Reliability Standards is to codify technical solutions. We request that the NERC-SAC clarify this role. Codifying technical solutions seems inconsistent with the intent of standards process which is to focus on WHAT is required to maintain reliability not on how to do it (i.e., technical solutions).</p> <p>The suggested draft Working Paper on a Proposed Transmission Relay Loadability Standard is a good GUIDELINE for determining relay loadability settings not a Reliability Standard. The draft requirements are overly prescriptive and focus on HOW to set relays not what is required to</p>

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Commenter	Yes	No	Comment
Darrick Moe – WAPA (2) P. Oreschnick – XEL (2) Dick Pursley – GRE (2) Dave Rudolph – BEPC (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.			maintain reliability, i.e., that each Transmission Planner, Planning Authority, Reliability Coordinator, and Transmission Operator should optimize their system's ability to slow or stop an uncontrolled cascading failure of the power system. The MRO believes that this optimization is best addressed through existing standards such as the TPL standards. This provides for a complete and integrated response which Transmission System Protection Owner's (TPSO) can not provide.
<p><b>Response:</b> We apologize that the marked up version was inadvertently posted.</p> <p>The resulting standard to be developed will develop loadability requirements, not methods to satisfy the requirements. The level of detail necessary to address this subject suggests that this be covered in a stand alone standard as opposed to being spread across many standards. Most commenters who responded to this comment form indicated that a standard is required. Protective relay response time does not allow for planned operator response. The existing TPL standards have not, by themselves, prevented cascading outages and analyses of blackouts have shown that adding criteria to set limits on relay actions to optimize the ability to slow or stop an uncontrolled cascading failure of the power system is necessary. This standard is intended to facilitate the ability of the Transmission Planner, Planning Authority, Reliability Coordinator, and Transmission Operator to slow or stop an uncontrolled cascading failure of the power system.</p>			
SaskPower (1) Wayne Guttormson		✓	<p>SaskPower questions whether the role of the NERC Reliability Standards process is to codify technical solutions. WE REQUEST THAT THE NERC-SAC CLARIFY THIS ROLE. Codifying technical solutions seems inconsistent with the intent of standards process which is to focus on WHAT is required to maintain reliability not on HOW to do it (i.e., technical solutions). If NERC is to be codifying technical solutions WHY have we not been doing that with all of the other standards that have been developed to date?</p> <p>SaskPower has the following additional comments for the Purpose/Industry Need section: The purpose seems to overstate the role zone 3 played in the 2003 blackout in that relay loadability was not listed as a causal event in the final report. Quoting from the August 14, 2003, Blackout Final NERC Report, dated July 13, 2004, Section V, Conclusions and Recommendations, I. Conclusions and Recommendations, C. OTHER DEFICIENCIES, 1. Summary of Other Deficiencies Identified in the Blackout Investigation: Available system protection technologies were not consistently applied to optimize the ability to slow or stop an uncontrolled cascading failure of the power system. The effects of zone 3 relays, the lack of under-voltage load shedding, and the coordination of underfrequency load shedding and generator protection are all areas requiring further investigation to determine if opportunities exist to limit or slow the spread of a cascading failure of the system.</p> <p>The reference to ongoing contributor to system disturbances is too general and should be clarified. Is it referring to all types of contingencies (Category B, C &amp; D) or just extreme</p>

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
			<p>contingencies (Category D)? Given the references to the 2003 Blackout we assume it is meant for Category D.</p> <p>SaskPower has the following additional comments for the Detailed Description section: Is the SAR intended to mitigate relay loadability impacts for all contingencies or just extreme contingencies? Is this not already covered by the TPL standards?</p> <p>TPL-002-0 R1.3.10, TPL-003-0 R1.3.10, and TPL-004-0 R1.3.7; require the Planning Authority and Transmission Planner to include the effects of existing and planned protection systems in their transmission planning studies. If system performance deficiencies are found they are supposed to mitigate them.</p> <p>The SAR still seems to imply that manual operator action is preferred over automatic action, due consideration must be given to both. Relying on operator action to mitigate extreme (Category D) contingencies may be somewhat problematic.</p> <p>As well, SaskPower is concerned that this SAR will limit our ability to decide how we want our system to respond to extreme contingencies. As the Planning Authority and Reliability Coordinator for Saskatchewan this is our responsibility and we feel that it is best left up to us to decide on how the relays in our system and on our tie-lines are to be set based on our system performance requirements.</p> <p>The suggested draft Working Paper on a Proposed Transmission Relay Loadability Standard is a good GUIDELINE for determining relay loadability settings not a Reliability Standard. The draft requirements are overly prescriptive and focus on HOW to set relays not WHAT is required to maintain reliability, i.e., that each Transmission Planner, Planning Authority, Reliability Coordinator, and Transmission Operator should optimize their system's ability to slow or stop an uncontrolled cascading failure of the power system. SaskPower believes that this optimization is adequately addressed through the TPL standards. This provides for a complete and integrated response which Transmission System Protection Owner's (TPSO) can not provide.</p> <p>Some general comments on the draft standard:  R1.1.2 uses a 15 minute emergency rating. Will system operators be able to respond within 15 minutes for a Category B, C, or D contingency (R1.1.2.2)?  System topologies used in the examples are rather limiting, are they system equivalents or specific topologies?</p>

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
			<p>Applying the required settings may be somewhat impractical. For example: The TPSO shall determine the maximum current flow ... under ANY system condition. Suggest changing the language to any credible worst case system condition. In the case of multiple lines, this includes situations where ALL the other lines ... are out of service. Is this a credible system condition? Does the TPSO have the capability to perform this analysis? Wouldn't this analysis be performed by the Planning Authority, Transmission Planner, Reliability Coordinator, or Transmission Operator?</p> <p>R1.2.9. Transformer Overcurrent Protection: This requirement states that the TPSO must provide emergency loadability. SaskPower believes that Emergency Ratings for facilities are the sole responsibility of the TO (as per FAC-008 and 009) not the TPSO, and that emergency loadability is at the discretion of the TO. SaskPower also questions whether it is within the purview of this standard (or the SPCTF) to determine acceptable overloads or acceptable loss of life for ANY piece of equipment. Is this not the responsibility of the TO? As well, the protection philosophy used by the TO should be at the discretion of the TO as long as system performance criteria are met, and there has been proper coordination with the Planning Authority, Transmission Planner, Reliability Coordinator, and Transmission Operator.</p> <p>R1.2.10.1 TPSO-Established Maximum Loading Capability: If the RRO is not approving Facility Ratings (FAC-008-1 and FAC-009-1) why is it approving this rating?</p>
<p><b>Response:</b> The resulting standard to be developed will develop loadability requirements, not methods to satisfy the requirements. The level of detail necessary to address this subject suggests that this be covered in a stand alone standard as opposed to being spread across many standards. Most commenters who responded to this comment form indicated that a standard is required.</p> <p>Protective relay response time does not allow for planned operator response.</p> <p>With respect to your comment on 'ongoing contributor to system disturbances' - some of the contingencies are even lesser contingencies than Category B.</p> <p>With respect to your comment on the detailed description - Relays are in service all the time. The proposed standard is intended to give the operators time to respond to any actual or anticipated contingency that may be present.</p> <p>The existing TPL standards have not, by themselves, prevented cascading outages and analyses of blackouts have shown that adding criteria to set limits on relay actions to optimize the ability to slow or stop an uncontrolled cascading failure of the power system is necessary.</p> <p>Any automatic protection for response to extreme contingencies should be designed explicitly for that purpose and should not involve relays normally installed for fault protective purposes.</p> <p>Fault protection on the interconnected power system has a wide-area impact not limited to one Reliability Coordinator or Region.</p> <p>This standard is intended to facilitate the ability of the Transmission Planner, Planning Authority, Reliability Coordinator, and Transmission Operator to slow or stop an uncontrolled cascading failure of the power system.</p> <p>The working paper was intended to give stakeholders a look at a possible set of requirements within the scope of the proposed SAR but the</p>			

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
SAR drafting team did not intend to collect specific comments on these draft requirements. Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).			
FRCC (2) John Odom Linda Campbell John Mulhausen – FPL ( 1) Garl Zimmerman – SECI (5) Steve Wallace – SECI (4) Roland Stafford – SECI (4)	✓		The SAR adequately addresses the requirements necessary to establish minimum loadability criteria for critical relays to minimize the chance of unnecessary line trips during a major transmission system disturbance.
<b>Response:</b> Acknowledged.			
Consumers Energy (3, 4) Charles W. Rogers	✓		The draft SAR seems well prepared, and seems to accurately capture the scope of the work done thus far within the industry.
<b>Response:</b> Acknowledged.			
ISO New England, Inc. (2) Kathleen Goodman	✓		ISO-NE believes that is it the Regions responsibility to determine what circuits are classified as "Operationally Significant Circuits."
<b>Response:</b> The definition of operationally significant circuits was in the working paper, not the SAR, Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).			
Allegheny Power (1) William J. Smith	✓		
MAAC (2) John Horakh	✓		
Entergy Services, Inc. (1) Ed Davis	✓		
American Transmission Company LLC ATC (1) Peter Burke [on behalf of ATC's Rich Young]	✓		
Pepco Holdings, Inc. (1) Richard Kafka Evan Sage Alvin Depew	✓		

**Consideration of Comments on First Draft of Relay Loadability SAR**

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Commenter	Yes	No	Comment
Carl Kinsley – Delmarva			
Southern Co. – Transm. (1) Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)	✓		
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh	✓		
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		



## Consideration of Comments on First Draft of Relay Loadability SAR

### 3. Do you agree with the proposed applicability of the SAR?

**Summary Consideration:** Most commenters agreed with the applicability of the SAR. Some commenters asked for additional clarification on the proposed requirements for the RRO and DP and the SAR was revised to add these details. The proposed standard will require that each RRO have a methodology for identifying its operationally significant circuits, and will require that the RRO identify those circuits. The Transmission Owner, Generator Owner and Distribution Provider that owns a Transmission Protection System addressed by the standard will be required to comply with the transmission relay loadability criteria identified in the standard.

Commenter	Yes	No	Comment
PJM (2) Mark Kuras		✓	An attempt is made here to circumvent the NERC definition of Transmission System by defining a Transmission Protection System Owner that goes down to 100 kV. The NERC definition of Transmission system allows regional interpretation of the voltage class. I completely disagree with this attempt.
<p><b>Response:</b> The NERC Glossary of Terms Used in Reliability Standards does not contain an approved definition of 'Transmission System'. The approved definition of Bulk Electric System is:</p> <p style="padding-left: 40px;">As defined by the Regional Reliability Organization, the electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment, generally operated at voltages of 100 kV or higher. Radial transmission facilities serving only load with one transmission source are generally not included in this definition.</p> <p>Allowing each Region to develop a unique definition of 'Transmission System' does not fully consider inter-regional effects of inadvertent protective relay operation on the interconnected system. The proposed standard is intended to address functional effect of protective relays on the interconnected system. It is necessary to include some relays in addition to those installed on traditional BES elements.</p>			
MRO (2) Jim Maenner Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Darrick Moe – WAPA (2) P. Oreschnick – XEL (2) Dick Pursley – GRE (2) Dave Rudolph – BEPC (2)		✓	Nothing in the SAR explains why this should apply to the RRO or Distribution Provider.

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
Joe Knight – MRO (2) 27 additional MRO members not listed above.			
<p><b>Response:</b> The proposed standard is intended to address functional effect of protective relays on the interconnected system. It is necessary to include some relays in addition to those installed on traditional Transmission System elements. Some of these relays may be on equipment owned by the DP. It is anticipated that the RRO will be responsible for compliance to NERC for developing a methodology for identifying its operationally significant circuits and for identification of those operationally significant circuits. The SAR was modified to include these clarifications.</p>			
Entergy Services, Inc. (1) Ed Davis		✓	<p>The proposed criteria for determining Operationally Significant Circuits should be more clear and concise. As written, misinterpretation is probable.</p> <ol style="list-style-type: none"> <li>1. Does the term "Flowgates" refer to those facilities in the NERC Book of Flowgates? If so, please so state. If not, what is the definition of "Flowgates" as a proper term?</li> <li>2. The phrase "All circuits that are elements of system operating limits" means what. Every transmission line has a rating that, when exceeded, constitutes a system operating limit. This seems to leave the door open to saying that every possible combination of outaged and monitor elements could be considered operationally significant. It would be more practical to state that "All circuits that are elements of a reported SOL violation or IROL violation including both the monitored and outage elements"</li> <li>3. With respect to the offsite power supply to nuclear plants, what is the criteria for "adverse impact"? If outage of a particular circuit drops the voltage at the offsite power bus for a nuclear plant from 1.02 per unit to 1.00 per unit, does this constitute an adverse impact? Hopefully not. Such would be impractical. A recommended alternative is "Any circuit, when outaged, that causes the voltage at the off-site power bus at a nuclear bus to exceed established operating limits".</li> </ol>
<p><b>Response:</b> All of your comments/questions pertain to clarification of the working paper, rather than the SAR. Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened).</p>			
SaskPower (1) Wayne Guttormson		✓	Nothing in the SAR explains why this should apply to the RRO. The RRO is referenced in the draft standard (which we are not supposed to comment on).
<p><b>Response:</b> It is anticipated that the RRO will be responsible for compliance to NERC for developing a methodology for identifying its operationally significant circuits and for identification of those operationally significant circuits. The SAR was modified to include this clarification.</p>			

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
NERC Standards Evaluation Committee Bill Bojorquez – ERCOT	✓		In general, the SES agrees with the scope of the SAR. However, the SES would recommend the SDT consider adding a exemption allowance for known equipment limitations.
<p><b>Response:</b> The emergency loadability of equipment should be reflected in the equipment ratings, and the fault protective relay should not be responsible for relieving emergency loading concerns. Controlling of emergency load should be left to system operators.</p>			
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO James Ingleson – NYISO Brian Hogue – NPCC Guy Vito – NPCC	✓		<p>While we agree with the applicable of the standard we also recognize that the equipment owners have concerns regarding the emergency loadability of their equipment and the standard should recognize the ability for exceptions.</p> <p>The TPSO definition in the whitepaper should be included in the SAR.</p>
<p><b>Response:</b> The emergency loadability of equipment should be reflected in the equipment ratings, and the fault protective relay should not be responsible for relieving emergency loading concerns. Controlling of emergency load should be left to system operators. TPSO was defined in the SAR.</p>			
NYISO James Ingleson – NYISO	✓		While we agree with the applicable of the standard we also recognize that the equipment owners have concerns regarding the emergency loadability of their equipment and the standard should recognize the ability for exceptions.
<p><b>Response:</b> The emergency loadability of equipment should be reflected in the equipment ratings, and the fault protective relay should not be responsible for relieving emergency loading concerns. Controlling of emergency load should be left to system operators.</p>			

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
Consumers Energy (3, 4) Charles W. Rogers	✓		All listed entities have a role in addressing the problems. It's only unfortunate that there isn't an entity within the Functional Model which is specifically and completely responsible for all facets of protective systems.
<b>Response:</b> Acknowledged.			
MAAC (2) John Horakh	✓		
Pepco Holdings, Inc. (1) Richard Kafka Evan Sage Alvin Depew Carl Kinsley – Delmarva	✓		
ISO New England, Inc. (2) Kathleen Goodman	✓		
Southern Co. – Transm. (1) Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)	✓		
City of Tallahassee (5) Alan Gale	✓		
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh	✓		
Cinergy (1, 3, 6) Jeffrey T. Baker	✓		
FRCC (2) John Odom	✓		

**Consideration of Comments on First Draft of Relay Loadability SAR**

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Commenter	Yes	No	Comment
Linda Campbell John Mulhausen – FPL (1) Garl Zimmerman – SECI (5) Steve Wallace – SECI (4) Roland Stafford – SECI (4)			
American Transmission Company LLC ATC (1) Peter Burke [on behalf of ATC's Rich Young]	✓		
Allegheny Power (1) William J. Smith	✓		

## Consideration of Comments on First Draft of Relay Loadability SAR

### 4. Are you aware of any commercial considerations that might require a concurrent NAESB action associated with the proposed SAR?

**Summary Consideration:** No commenters suggested the need for any concurrent NAESB action associated with the proposed standard.

Commenter	Yes	No	Comment
Consumers Energy (3, 4) Charles W. Rogers		✓	This is wholly a technical issue related to the reliability of the electrical system. There is, of course, a cost issue related to continued compliance, but this isn't a commercial issue.
<b>Response:</b> Acknowledged.			
MAAC (2) John Horakh		✓	
Pepco Holdings, Inc. (1) Richard Kafka Evan Sage Alvin Depew Carl Kinsley – Delmarva		✓	
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO James Ingleson – NYISO Brian Hogue – NPCC Guy Vito – NPCC		✓	

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
NYISO James Ingleson – NYISO		✓	
PJM (2) Mark Kuras		✓	
Entergy Services, Inc. (1) Ed Davis		✓	
ISO New England, Inc. (2) Kathleen Goodman		✓	
Southern Co. – Transm. (1) Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)		✓	
City of Tallahassee (5) Alan Gale		✓	
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh		✓	
Cinergy (1, 3, 6) Jeffrey T. Baker		✓	
FRCC (2) John Odom Linda Campbell John Mulhausen – FPL ( 1) Garl Zimmerman – SECI (5) Steve Wallace – SECI (4) Roland Stafford – SECI (4)		✓	
MRO (2) Jim Maenner Al Boesch – NPPD (2)		✓	

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Darrick Moe – WAPA (2) P. Oreschnick – XEL (2) Dick Pursley – GRE (2) Dave Rudolph – BEPC (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.			
American Transmission Company LLC ATC (1) Peter Burke [on behalf of ATC's Rich Young]		✓	
NERC Standards Evaluation Committee Bill Bojorquez – ERCOT		✓	
SaskPower (1) Wayne Guttormson		✓	
Allegheny Power (1) William J. Smith		✓	



## Consideration of Comments on First Draft of Relay Loadability SAR

### 5. Should the scope of the proposed SAR include relays associated with generators?

**Summary Consideration:** Most commenters indicated that the proposed standard should not include relays associated with generators so the SAR drafting team did not modify the SAR to address additional generator protection.

Commenter	Yes	No	Comment
Pepco Holdings, Inc. (1) Richard Kafka Evan Sage Alvin Depew Carl Kinsley – Delmarva		✓	The SAR properly excludes generation protection systems. We acknowledge that the SAR should (and does) include transmission protection systems located (and possibly owned) by the Generation Own.
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO Brian Hogue – NPCC Guy Vito – NPCC		✓	Although NPCC's participating members believe that for the purposes of this SAR the relays associated with generators should not be included in the scope, it is important that the issue of coordination between generator and transmission system protection be addressed elsewhere in the NERC standards.
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			
NYISO James Ingleson – NYISO		✓	Generator protection considerations are different and a different set of people would be needed on the team, so this would make a strange combination with transmission system loadability. We recognize however that there are generator protections such as backup distance relay protection

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
			which require coordination between generator and transmission relays.
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			
PJM (2) Mark Kuras		✓	I disagree with NERC dealing with this topic.
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			
Consumers Energy (3, 4) Charles W. Rogers	✓		Only to the extent that generator FAULT PROTECTIVE relays provide some degree of remote backup protection for transmission-voltage-level faults, and respond in such a way as to limit loading on the generator, generator step up transformer, or connection of the generator step up transformer to the transmission system. The applicability is well described in clause R1.2.5 of the posted Working Paper, and well limited by clause 4.3 of the Working Paper. This area of generator protection probably ultimately needs to be comprehensively addressed, but to do so would be premature based on the knowledge base within NERC and within the industry. Many other factors will probably also need to be considered to move forward to an increased degree on consideration of generator protection.
<b>Response:</b> Thank you for your comments relative to generator protection. In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection. Your comments will be considered if/when a SAR addressing generator protection is developed.			
Entergy Services, Inc. (1) Ed Davis			None
ISO New England, Inc. (2) Kathleen Goodman		✓	This should be a future consideration for a staged implementation.
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			
Southern Co. – Transm. (1) Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)		✓	
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			
City of Tallahassee (5)		✓	

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
Alan Gale			
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.</p>			
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh		✓	
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.</p>			
Cinergy (1, 3, 6) Jeffrey T. Baker		✓	We believe that additional or specific guidance on how to handle generators should be detailed in a separate standard.
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.</p>			
FRCC (2) John Odom Linda Campbell John Mulhausen – FPL ( 1) Garl Zimmerman – SECI (5) Steve Wallace – SECI (4) Roland Stafford – SECI (4)		✓	The SAR covers the necessary Transmission Protection Systems and does not need to be expanded to cover relays associated with generators.
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.</p>			
MRO (2) Jim Maenner Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Flrom – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2)		✓	The working paper should not be turned into a Standard.

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
Tom Mielnik – MEC (2) Darrick Moe – WAPA (2) P. Oreschnick – XEL (2) Dick Pursley – GRE (2) Dave Rudolph – BEPC (2) Joe Knight – MRO (2) 27 additional MRO members not listed above.			
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection. The issue of the need for this standard was addressed in our response to your comments in question 1.</p>			
NERC Standards Evaluation Committee Bill Bojorquez – ERCOT		✓	The SES believes that is proper that this proposed SAR examine relay loadability requirements for transmission lines and not address relays associated with generators with SAR. The SES believes this generator effort should be reserved for a different team in a different SAR and should move forward in parallel with this effort.
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.</p>			
SaskPower (1) Wayne Guttormson		✓	The working paper should not be turned into a Standard.
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection. The issue of the need for this standard was addressed in our response to your comments in question 1.</p>			
Allegheny Power (1) William J. Smith		✓	
<p><b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.</p>			
MAAC (2) John Horakh	✓		Relays that do more than trip a single genrator should be included.
<p><b>Response:</b> Thank you for your comments relative to generator protection. In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection. Your comments will be considered if/when a SAR addressing generator protection is developed.</p>			
American Transmission Company LLC ATC (1)	✓		

## Consideration of Comments on First Draft of Relay Loadability SAR

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Commenter	Yes	No	Comment
Peter Burke [on behalf of ATC's Rich Young]			
<b>Response:</b> In response to the prevailing comments the SAR drafting team has decided not to expand this SAR to include additional consideration of generator protection.			

## Consideration of Comments on First Draft of Relay Loadability SAR

### 6. Are you aware of any regional differences that should be identified as part of the development of the standard?

**Summary Consideration:** No specific regional differences were identified by commenters. Some commenters indicated that regional differences may be identified once the standard is developed.

Commenter	Yes	No	Comment
PJM (2) Mark Kuras	✓		Regional differences having to do with the definition of bulk power system should be recognized.
<b>Response:</b> This standard does not rely on a Regional definition of bulk power system.			
ISO New England, Inc. (2) Kathleen Goodman	✓		ISO-NE believes that because there are no uniform standards for rating facilities, such as conductors, transformers, etc. that have been accepted nationwide, it will be difficult to have all responsible entities comply with this Standard. The ISO believes that each Region must and should determine it's own standards for rating facilities, espeically if it pertains to determining which circuits are "operationally significant."
<b>Response:</b> Your comment will be passed on to the standard drafting team for consideration (when convened). As envisioned, the RRO will establish a methodology for determining which of the circuits within its area are operationally significant.			
Consumers Energy (3, 4) Charles W. Rogers		✓	The clauses within the Working Paper seem to represent the major system issues endemic on all North American systems.
<b>Response:</b> Acknowledged.			
MRO (2) Jim Maenner Al Boesch – NPPD (2) Terry Bilke – MISO (2) Bob Coish – MHEB (2) Dennis Florum – LES (2) Ken Goldsmith – ALT (2) Todd Gosnell – OPPD (2) W. Guttormson – SPC (2) Tom Mielnik – MEC (2) Darrick Moe – WAPA (2) P. Oreschnick – XEL (2) Dick Pursley – GRE (2) Dave Rudolph – BEPC (2)		✓	Without specific information about the content of the standard it is difficult to determine the necessity for Regional Differences.

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
Joe Knight – MRO (2) 27 additional MRO members not listed above.			
<b>Response: Acknowledged.</b>			
MAAC (2) John Horakh		✓	
Pepco Holdings, Inc. (1) Richard Kafka Evan Sage Alvin Depew Carl Kinsley – Delmarva		✓	
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO Brian Hogue – NPCC Guy Vito – NPCC		✓	
NYISO James Ingleson – NYISO		✓	
Entergy Services, Inc. (1) Ed Davis		✓	
Southern Co. – Transm. (1)		✓	

**Consideration of Comments on First Draft of Relay Loadability SAR**

Commenter	Yes	No	Comment
Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)			
City of Tallahassee (5) Alan Gale		✓	
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh		✓	
Cinergy (1, 3, 6) Jeffrey T. Baker		✓	
FRCC (2) John Odom Linda Campbell John Mulhausen – FPL ( 1) Garl Zimmerman – SECI (5) Steve Wallace – SECI (4) Roland Stafford – SECI (4)		✓	
American Transmission Company LLC ATC (1) Peter Burke [on behalf of ATC's Rich Young]		✓	
NERC Standards Evaluation Committee Bill Bojorquez – ERCOT		✓	
SaskPower (1) Wayne Guttormson		✓	
Allegheny Power (1) William J. Smith		✓	



## Consideration of Comments on First Draft of Relay Loadability SAR

### 7. Do you have any additional comments on this SAR you would like to include?

Commenter	Yes	No	Comment
NYISO James Ingleson – NYISO	✓		The SAR and subsequent standard should emphasize that the loadability should apply only during emergency situations and not as a matter of normal system operations.
<b>Response:</b> Agreed. The proposed standard is not intended to increase system ratings but instead it provides system operators with the opportunity to respond to actual or projected system overloads during any system operating condition. .			
PJM (2) Mark Kuras	✓		Recommend this SAR be deleted.
<b>Response:</b> See the response to your comments on question 1. Most commenters supported this SAR.			
Consumers Energy (3, 4) Charles W. Rogers	✓		It's a superbly prepared SAR, and should go forward as is. Additionally, the Working Paper seems to represent an excellent first draft for the standard, and the process would probably be best served if the Standard Drafting Team, upon formation, would post the Working Paper as Draft 1 of the standard.
<b>Response:</b> Acknowledged.			
Entergy Services, Inc. (1) Ed Davis	✓		The draft standard will apply to transmission lines operated 200 kV and above. This assumes that all of these circuits are operationally significant and that may not be the case. The operationally significant criteria should be applied to all lines 100 kV and above.
<b>Response:</b> The original recommendations to include circuits 200 kV and above came from the blackout team investigative analysis. The NERC BOT approved these recommendations on February 4, 2004 and assigned implementation to the appropriate NERC committees. The proposed standard adopts these recommendations and adds the lower voltage operationally significant circuits as per Recommendation 21 of the US-Canada Final Report on the Blackout published April, 2004.			
ISO New England, Inc. (2) Kathleen Goodman	✓		We feel that the definitions of TPSO and voltage classifications as noted on page SAR-6, should be included as part of the Standard. Furthermore, the Standard definitions should align with the working paper definitions.
<b>Response:</b> Comments relating to the working paper will be passed on to the Standards Drafting Team for consideration (when convened). The definition of TPSO in the SAR will carry over to the standard. The final definition of other terms developed with the standard will need to meet stakeholder consensus and this SAR drafting team cannot guarantee that they will match the definitions in the working paper.			
Tri-State Generation and Transmission Association, Inc. (1) Bill Middaugh	✓		Protection systems intended for protection during stable power swings' are exempted from the standard. It's been my experience that stable power swings usually call for blocking of relay operation. It would seem that 'Protection systems intended for protection during unstable power swings' ought also to be exempted from the standard.

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
<p><b>Response:</b> Relay systems are in service all the time - protection systems intended for protection during unstable power swings may also respond to heavy loads during steady-state operating conditions and thus cannot be excluded from this standard. If you disagree, please provide more details to the standard drafting team for their consideration.</p>			
<p>MRO (2)                      Jim Maenner                      Al Boesch – NPPD (2)                      Terry Bilke – MISO (2)                      Bob Coish – MHEB (2)                      Dennis Florom – LES (2)                      Ken Goldsmith – ALT (2)                      Todd Gosnell – OPPD (2)                      W. Guttormson – SPC (2)                      Tom Mielnik – MEC (2)                      Darrick Moe – WAPA (2)                      P. Oreschnick – XEL (2)                      Dick Pursley – GRE (2)                      Dave Rudolph – BEPC (2)                      Joe Knight – MRO (2)                      27 additional MRO members not listed above.</p>	✓		<p>Based on the draft standard that is included as a working paper the MRO would support a SAR of more limited scope if it focused on adding additional language to existing standards such as TPL-004 related to optimizing a system's ability to slow or stop an uncontrolled cascading failure of the power system.</p>
<p><b>Response:</b> See the response to your comments on question 1.</p>			
<p>American Transmission Company LLC ATC (1)                      Peter Burke [on behalf of ATC's Rich Young]</p>	✓		<p>Comments on the associated working paper:</p> <ol style="list-style-type: none"> <li>1. R1.1.2 states the relay should not operate at or below 1.15 times the 15-minute emergency rating of the line, but the equation is identical to the one in R1.1.1 for the 4-hour rating, which indicates a limit of 1.5 times. Change "1.5" in the denominator to "1.15", as required in Exception 1 of the "Protection System Review Program – Beyond Zone 3" dated August 2005.</li> <li>2. R1.2.2.2, R1.2.6.5, R1.2.4.5 and R1.2.10.5 require operators to take immediate remedial steps, including dropping load, if the current on the circuit reaches I(emergency). This is an operating requirement, and does not belong in a relay loadability standard. Remove these requirements. There should be a requirement to that effect in the IRO or TOP standards.</li> </ol>
<p><b>Response:</b> Acknowledged. Comment will be passed on to the Standards Drafting Team for consideration (when convened).</p>			
<p>SaskPower (1)                      Wayne Guttormson</p>	✓		<p>SaskPower would vote NO on this draft standard if it were pushed to ballot. SaskPower would consider supporting a SAR of a MUCH MORE limited scope if it focused on adding additional language to TPL-004 related to optimizing a system's ability to slow or stop an uncontrolled</p>

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
			cascading failure of the power system, and perhaps PRC-001 for coordination purposes. Also, if a proposed draft standard is included with a SAR it should be commented on now, not later. If the draft is what the requestor envisions the final standard to be it should be evaluated by the industry to determine if the industry and requestor have any common ground.
<p><b>Response:</b> See the response to your comment on question 1. The draft standard was included to provide commenters with an idea of the intended scope of the associated standard but was not intended to be presented as the 'final standard'.</p>			
NERC Standards Evaluation Committee Bill Bojorquez – ERCOT		✓	As noted earlier, the SES commends the SAR drafting team for their extensive work in preparing this SAR for comment and looks forward to reviewing their responses to comments received.
<p><b>Response:</b> Acknowledged.</p>			
NPCC CP9, Reliability Standards Working Group K. Goodman – ISONE M. Schiavone – Ngrid R. Champagne – TransÉnergie David Kiguel – Hydro One Ron Falsetti – IESO Edwin Thompson – ConEd Don Nelson – MA Dept. of Tel. and Energy Shashi Parekh – MA Dept. of Tel. and Energy Alan Adamson – NYSRC Greg Campoli – NYISO Brian Hogue – NPCC Guy Vito – NPCC		✓	The SAR and subsequent standard should emphasize that the loadability should apply only during emergency situations and not as a matter of normal system operations.
<p><b>Response:</b> System Operators have the responsibility to operate the system within established limits. Protective relaying should be applied so as to provide the operators the ability to respond according to their responsibility. The proposed standard of establishing relay loadability criteria should not be seen as increasing the ability of the system to carry load but instead should allow the operators time to respond accordingly.</p>			
MAAC (2) John Horakh		✓	
Pepco Holdings, Inc. (1) Richard Kafka		✓	

## Consideration of Comments on First Draft of Relay Loadability SAR

Commenter	Yes	No	Comment
Evan Sage Alvin Depew Carl Kinsley – Delmarva			
Southern Co. – Transm. (1) Marc M. Butts Jim Busbin – SOCO (1) Jim Viikinsalo – SOCO (1) Phil Winston – GA PWR (3)		✓	
City of Tallahassee (5) Alan Gale		✓	
Cinergy (1, 3, 6) Jeffrey T. Baker		✓	
FRCC (2) John Odom Linda Campbell John Mulhausen – FPL ( 1) Garl Zimmerman – SECI (5) Steve Wallace – SECI (4) Roland Stafford – SECI (4)		✓	
Allegheny Power (1) William J. Smith		✓	