

# Survey Report

## Survey Details

**Name** 2015-10 Single Points of Failure SAR

**Description**

**Start Date** 11/12/2015

**End Date** 12/17/2015

**Associated Ballots**

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## Survey Questions

***1. Do you agree with the scope and objectives of the SAR? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.***

**Yes**

**No**

***2. If you have any other comments on this SAR that you haven't already mentioned above, please provide them here.***

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## Responses By Question

***1. Do you agree with the scope and objectives of the SAR? If not, please explain why you do not agree and, if possible, provide specific language revisions that would make it acceptable to you.***

**Kevin Conway - INTELLIBIND - 5 - NA - Not Applicable**

**Selected Answer:** Yes

**Answer Comment:** None

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Guy V. Zito - Northeast Power Coordinating Council - 10 -**

**Selected Answer:** No

**Answer Comment:**

NPCC suggests that while the TPL-001-4 standard is being revised to address single component failure, the SAR is revised to also address a point of confusing regarding testing for line end open conditions which may result in a RFI if not addressed here. Specifically TPL-001-4, footnote 7 states "Opening one end of a line section without a fault on a normally networked Transmission circuit such that the line is possibly serving Load radial from a single source point"

- 1) Does this mean opening one end of a line section with a breaker operation?
- 2) For line section connected to a station with a breaker and a half or ring bus design, only one breaker would be opened?
- 3) Using a Disconnect Switch is or is not applicable for this event?

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Gul Khan - Oncor Electric Delivery - 2 - TRE**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

**Selected Answer:** No

**Answer Comment:**

MH believes the proposed SAR did not completely capture the recommendations proposed in the background NERC document posted in the project page. The SAR recommends to simply replace the “relay” with “components of protection system” and to replace foot note 13 with the definition of “Protection System” under Category-5 in Table-1 of TPI-001-4. The category P5 in Table-1 of TPL-001-4 recommends simulating a single-line-to-ground (SLG) fault, but the proposed SAR is recommending to modify the section 4.5 of the TPL standard to simulate a three-phase fault (simulation of a three-phase fault is proposed by NERC SPCS and SAMS in their background document)

Based on the background document from SPCS and SAMS, it appears that a breaker with a single trip coil is OK from a redundancy point of view if it is the only single point of failure and can be simulated as a breaker failure event. A risk based assessment should be used to identify locations of concern rather than making full protection redundancy a bright line requirement (such as all stations 100 kV and above). The background document provided a criteria for busses to be evaluated (Table 1.1) and criteria to evaluate the system performance (Table 1.2). These ideas don't seem to be in the SAR.

MH is proposing to introduce a separate category (or to modify Category P5 ) in Table 1 of TPL-001-4 to simulate a three-phase fault only for the busses meeting the criteria in Table 1.1 in the NERC background document and to evaluate the system performance against the criteria given in Table 1.2.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Thomas Foltz - AEP - 5 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Seelke - PSEG - 1,3,5,6 - WECC,NPCC**

**Group Information**

Group Name: PSEG

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joseph Smith	Public Service Electric and Gas	RFC	1
Jeffrey Mueller	Public Service Electric and Gas Co.	RFC	3
Tim Kucey	PSEG Fossil LLC	RFC	5
Karla Jara	PSEG Energy Resources & Trade LLC	RFC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
John Seelke	1,3,5,6
<b>Entity</b>	<b>Region(s)</b>
PSEG	WECC,NPCC

**Selected Answer:** No

**Answer Comment:**

PSEG provides input below suggesting improvements to several parts of the SAR.

1. **Section entitled “Industry Need (What is the industry problem this request is trying to solve?)”** This section is too detailed. The project’s webpage should have the final Order 754 Section data request posted in addition to the presently posted September SCPS/SAMs report and should have links to both documents. It should state that the SAR is a product of both documents – the Section 1600 data request and the SCPS and SAMS report which analyzed the results of that data request and developed recommendations and conclusions. The SAR need not repeat those recommendations and conclusions in the SAR itself.
2. **Section entitled “Purpose or Goal (How does this request propose to address the problem described above?)”** The present language limits the SDT to making recommendations identified in the SPCS and SAMS report. While such recommendations may be considered by the SDT, the SAR should not prevent the SDT from making

recommendations that differ from those in the SCPS and SAMS report. With this in mind, the following purpose statement is offered for consideration:

*The primary goal of this SAR is to modify NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) for the purpose of clarifying which Protection System components shall be included within the single point of failure analyses required by this Standard. The SDT shall give due weight to and consideration of the recommendations in the SPCS and SAMS report titled "Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request."*

3. Section entitled "Identify the Objectives of the proposed standards' requirements (What specific reliability deliverables are required to achieve the goal?)" This section has limitations that are similar to the prior sections. Again, the language should no limiting the SDT's work product to the modifications recommended in the SCPS and SAMS report. The following language is offered for consideration.

*Provide clear, unambiguous requirements and results-based Reliability standards to address the recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) that achieve the primary goal in the preceding section."*

4. **Section entitled "Brief Description (Provide a paragraph that describes the scope of this standard action.)"** No comments.
5. **Section entitled "Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR. Also provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)"** We recommend one word change to the first sentence which further supports the Purpose and Goal section as modified above:

The SDTs execution of this SAR requires the SDT to [address - strike "**address**" and replace with "**consider**"] the recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) identified in the SPCS and SAMS report titled "Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request."

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:** No

**Answer Comment:**

South Carolina Electric and Gas agrees with The SERC Planning Standards Subcommittee below:

"The original Order 754 work was based on a selection of a subset of transmission buses (the larger stations), rather than the entire BES. There does not appear to be anything in the SAR which limits the scope of the applicability in a similar fashion. We are concerned about the potential for inadvertently drastically increasing assessment work load if the scope is not appropriately limited. "

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Emily Rousseau	1,2,3,4,5,6
<b>Entity</b>	<b>Region(s)</b>
MRO	MRO

**Selected Answer:** No

**Answer Comment:**

Drop the “Modify TPL-001-4 (Part 4.5)” item from the SAR. The existing Part 4.5 text already includes the obligation to consider all (i.e. item number 1 and item number 2) of the stability extreme event items in Table 1. There is no need to add more text to make duplicative reference to item number 2.

Consider adding other items to the scope of the SAR to address several specific deficiencies that have been found in the TPL-001-4 standard.

- **Table 1, Header note i** – Revise note i because the present text can be interpreted to contradict the NERC Definition for Non-Consequential Load Loss. The response of voltage sensitive load and load disconnected from the System by end-user equipment are not Non-Consequential Load Loss. So by definition, response of voltage sensitive load and load disconnected from the System by end-user equipment are excluded from the steady state Non-Consequential Load Loss Allowed performance requirement. Wording like, “. . . associated with a planning event is allowed” may be clearer and not contradictory.
- **Cascading clarification** – Clarify the understanding the NERC definition of Cascading (e.g. Table 1, header note a). The subsequent loss of system elements, load, or generation is classified as Cascading when it results in widespread electric service interruption. Therefore, the loss of line circuits, transformer circuits, generators, or limited amounts of load due to cascading does not qualify as exceeding the Cascading performance requirement.
- **Load loss due to cascading** – Address the treatment of load loss due to cascading - perhaps with an additional Table 1 footnote. Load loss due to cascading does not meet the NERC definition of either Consequential Load Loss or Non-Consequential Load Loss. So, cascading load loss does not apply to the Non-Consequential Load Loss Allowed performance requirement. However, an additional performance requirement should probably be added that the sum of cascading load loss and Non-Consequential Load Loss should not exceed an entity’s IROL criteria.
- **Use of sensitivity cases in extreme event analysis** – Revise the wording in R3 and R4 (e.g. referring to Part 2.1 or Part 2.4 without limiting the obligation to planning event studies) to remove the obligation to use sensitivity cases in extreme event studies (i.e. R3.2 and R4.2). Extreme event studies using baseline cases (R2.1.1, R2.1.2, R2.2.1, R2.4.1, and R2.4.2) are essentially probing studies that consider extraordinary contingencies. Extreme event studies using sensitivity cases (R2.1.4 and R2.4.3) are essentially probing studies that consider the compounded effect of both extraordinary contingencies and extraordinary system conditions. The obligation to perform these compound effect studies results in an unreasonable expenditure of resources compared to the

information gained regarding potential consequences and adverse impacts.

- **Transfer levels used in near term planning horizon System models** – Include wording (perhaps in R2.1.4 – Expected transfers and R2.4.3 – Expected transfers) which explains that expected transfers used in the sensitivity cases must not exceed Transfer Capabilities assessment results that were determined in accordance with the effective NERC FAC-013 Reliability Standard.
- **Table 1, Footnote 1** – Revise the wording of footnote 1 of Table to add more clarity. For example, that an element is removed, not just open ended, by a Protection System operation designed to isolate the event fault. The voltage level of an unloaded winding of a three-winding transformer is excluded from the determination.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP**

**Selected Answer:** No

**Answer Comment:**

Due to the length of time (several years) it took the NERC SDT to develop the final draft, gain industry acceptance and receive FERC approval of the NERC TPL-001-4 standard, we believe that a more comprehensive review is essential at this time to address the ambiguities and enhance clarity in the standard. Therefore, we strongly suggest that the SAR's scope not be limited to just the single point of failure concern resulting from FERC Order No. 754, but be expanded to address all significant issues & concerns identified based on the standard's implementation experience by applicable entities in the industry.

Some of the numerous TPL-001-4 issues & concerns based on Xcel Energy's diverse planning experience in three Regions (MRO, SPP, WECC) are noted below. Additionally, we also support the issues identified by MRO NSRF, which are included as part of our comments under Q.2.

1. Requirement 1 references two standards, MOD-010 and MOD-012, that are slated to retire on July 1, 2016.
2. Requirement 2 requires independent Planning Assessments by both the Planning Coordinator/Authority (PC/PA) and Transmission Planner (TP), yet Requirement 7 states that the PC/PA in conjunction with the TP shall identify each entity's responsibility in completing what may be a single Planning Assessment. We believe that these two Requirements can be consolidated into one better defined Requirement.
3. Both sub-requirements 2.3 and 2.8 address the short circuit analysis required in the Planning Assessment. These are closely interrelated and can be consolidated into one Requirement.
4. Requirement 8 states that TPs shall distribute the Planning Assessment results to adjacent TPs and PCs. In discussion with other TPs, they are not necessarily interested in receiving Planning Assessments from other TPs, but do believe that if a reliability need arises, these should be made available upon request.

Since project 2015-10 will make substantial modifications to the TPL-001-4 standard, we respectfully ask NERC to take this opportunity to include a comprehensive review of the standard within the SAR's scope and help address the issues & concerns faced by many in the industry.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:** Yes

**Answer Comment:**

**While we generally support the scope and direction proposed in the SAR, some of the proposed changes to TPL-001-4 described in the SAR (and in this Comment Form) are unclear. Hence, we reserve our judgment on the final scope and the specific changes that will be made to the TPL-001-4 standard. For example, the replacement of FN 13 with the proposed wording but there is no mention of the placement of the functions or types of relay that will be replaced. Further, the meaning of “evaluation of the three-phase faults the described component failures of a Protection System” in the last bulleted proposed change is unclear. Does it mean evaluation of a three phase fault combined with the component failure of a Protection System? This needs to be clarified.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joe Tarantino - Sacramento Municipal Utility District - 1,3,4,5,6 - WECC**

**Selected Answer:** Yes

**Answer Comment:**

Given the primary goal of this SAR is to appoint a SDT to address recommendations for modifying the NERC Reliability Standard TPL-001-4 it is expected that the SDT would address FERC issues for single points of failure.

However, the SAR contains specific changes from the SPCS report that were recommendations from that team. There were other alternatives identified in the report that should be vetted by a broader audience.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Richard Vine - California ISO - 2 -**

**Selected Answer:** Yes

**Answer Comment:**

The ISO suggests that the revised standard should also address whether or not protection systems should require diversely-routed communication paths.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Selected Answer:** No

**Answer Comment:**

**Under SAR Information (Industry Need) - ATC has the following recommendations for the SAR SDT to consider:**

(1) Please drop the “Modify TPL-001-4 (Part 4.5)” item from the SAR. The existing Part 4.5 text already includes the obligation to consider all (i.e. item number 1 and item number 2) of the stability extreme event items in Table 1. There is no need to add more text to make duplicative reference to item number 2.

(2) **Under SAR Information (page 2) - In addition to the SCPS and SAMS recommendations, ATC recommends the SAR SDT also consider adding other items to the scope of the SAR to address several specific deficiencies that have been found in the TPL-001-4 standard.**

- **Table 1, Header note i** – Please revise note i because the present text can be interpreted to contradict the NERC Definition for Non-Consequential Load Loss. The response of voltage sensitive load and load disconnected from the System by end-user equipment are not Non-Consequential Load Loss. So by definition, response of voltage sensitive load and load disconnected from the System by end-user equipment are excluded from the steady state Non-Consequential Load Loss Allowed performance requirement. Wording like, “. . . associated with a planning event is allowed” may be clearer and not contradictory.

- **Cascading clarification** – Please clarify the understanding the NERC definition of Cascading (e.g. Table 1, header note a). The subsequent loss of system elements, load, or generation is classified as Cascading when it results in widespread electric service interruption. Therefore, the loss of line circuits, transformer circuits, generators, or limited amounts of load due to cascading does not qualify as exceeding the Cascading performance requirement.

- **Load loss due to cascading** – Please address the treatment of load loss due to cascading - perhaps with an additional Table 1 footnote. Load loss due to cascading does not meet the NERC definition of either Consequential Load Loss or Non-Consequential Load Loss. So, cascading load loss does not apply to the Non-Consequential Load Loss Allowed performance requirement. However, an additional performance requirement should probably be added that the sum of

cascading load loss and Non-Consequential Load Loss should not exceed an entity's IROL criteria.

- **Use of sensitivity cases in extreme event analysis** – Please revise the wording in R3 and R4 (e.g. referring to Part 2.1 or Part 2.4 without limiting the obligation to planning event studies) to remove the obligation to use sensitivity cases in extreme event studies (i.e. R3.2 and R4.2). Extreme event studies using baseline cases (R2.1.1, R2.1.2, R2.2.1, R2.4.1, and R2.4.2) are essentially probing studies that consider extraordinary contingencies. Extreme event studies using sensitivity cases (R2.1.4 and R2.4.3) are essentially probing studies that consider the compounded effect of both extraordinary contingencies and extraordinary system conditions. The obligation to perform these compound effect studies results in an unreasonable expenditure of resources compared to the information gained regarding potential consequences and adverse impacts.
- **Transfer levels used in near term planning horizon System models** – Please include wording (perhaps in R2.1.4 – Expected transfers and R2.4.3 – Expected transfers) which explains that expected transfers used in the sensitivity cases must not exceed Transfer Capabilities assessment results that were determined in accordance with the effective NERC FAC-013 Reliability Standard.
- **Table 1, Footnote 1** – Please revise the wording of footnote 1 of Table to add more clarity. For example, that an element is removed, not just open ended, by a Protection System operation designed to isolate the event fault. The voltage level of an unloaded winding of a three-winding transformer is excluded from the determination.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**William Temple - PJM Interconnection, L.L.C. - 2 - SERC,RFC**

**Selected Answer:** Yes

**Answer Comment:**

**While PJM generally supports the scope and direction in the proposed SAR, some of the proposed changes to TPL-001-4 presented in the SAR (and in the Comment Form) are unclear. Therefore, we reserve our judgment on the final scope and the specific changes that will be made to the TPL-001-4 standard. For example, the replacement of Footnote 13 with the proposed wording seems fine, but there is no mention of the placement of the functions or types of relay that will be replaced. Further, the meaning of “evaluation of the three-phase faults the described component failures of a Protection System” in the last bulleted proposed change is unclear. Does it mean evaluation of a three phase fault combined with the component failure of a Protection System? This needs to be clarified.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Brent Ingebrigtsen - PPL NERC Registered Affiliates - 1,3,5,6 - SERC,RFC**

**Group Information**

Group Name: PPL NERC Registered Affiliates

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Brent Ingebrigtsen	LG&E and KU Energy, LLC	SERC	1,3,5,6
Brenda Truhe	PPL Electric Utilities Corporation	RFC	1
Charlie Freibert	LG&E and KU Energy, LLC	SERC	3
Dan Wilson	LG&E and KU Energy, LLC	SERC	5
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Brent Ingebrigtsen	1,3,5,6
<b>Entity</b>	<b>Region(s)</b>
PPL NERC Registered Affiliates	SERC,RFC

**Selected Answer:** No

**Answer Comment:**

These comments are submitted on behalf of the following PPL NERC Registered Affiliates ("PPL"): Louisville Gas and Electric Company, Kentucky Utilities Company and PPL Electric Utilities Corporation. The PPL NERC Registered Affiliates are registered in two regions (RF and SERC) for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, PSE, RP, TO, TOP, TP, and TSP.

PPL NERC Registered Affiliates believe that this SAR usurps the SDT's role by providing specific language for inclusion in a first draft of TPL-001-5. This is atypical for a SAR form and necessitates comments on a standard even before the standard's first draft. Additionally, the SAR does not include a reliability justification for the revision in the "Detailed Description" section and instead incorporates the SPCS/SAMS report (Order No. 754...) in its entirety. PPL NERC Registered Affiliates believe that, at a minimum, a SAR should include a summary of the justification for any revisions with the SAR form itself.

PPL NERC Registered Affiliates suggest that the SDT consider adding the following language to the standard if the proposed change is added to TPL-001 for Project 2015-10 Single Points of Failure, November 2015.

“For 36 calendar months beginning the first day of the first calendar quarter following applicable regulatory approval, or in those jurisdictions where regulatory approval is not required on the first day of the first calendar quarter 36 months after Board of Trustees adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities, a correction action plan will not be required for a P5 event where an induction motor load stability model results in a transient stability criteria violation.”

The existing standard addresses similar statements:

Requirement 2.7.3: “If situations arise that are beyond the control of the Transmission Planner or Planning Coordinator that prevent the implementation of a Corrective Action Plan in the required timeframe, then the Transmission Planner or Planning Coordinator is permitted to utilize Non-Consequential Load Loss and curtailment of Firm Transmission Service to correct the situation that would normally not be permitted in Table 1, provided that the Transmission Planner Standard TPL-001-4 — Transmission System Planning Performance Requirements 5 or Planning Coordinator documents that they are taking actions to resolve the situation. The Transmission Planner or Planning Coordinator shall document the situation causing the problem, alternatives evaluated, and the use of Non-Consequential Load Loss or curtailment of Firm Transmission Service.”

Page 1 third paragraph in section 5. “For 84 calendar months beginning the first day of the first calendar quarter following applicable regulatory approval, or in those jurisdictions where regulatory approval is not required on the first day of the first calendar quarter 84 months after Board of Trustees adoption or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities, Corrective Action Plans applying to the following categories of Contingencies and events identified in TPL-001-4, Table 1 are allowed to include Non-Consequential Load Loss and curtailment of Firm Transmission Service (in accordance with Requirement R2, Part 2.7.3.) That would not otherwise be permitted by the requirements of TPL-001-4:

- P5 (above 300 kV)”

While this language allows some time to build projects, dropping load as written in the above language will not alleviate a transient voltage stability violation as a result of P5 event when combined with the behavior of induction motor loads

under requirement 2.4.1. In most cases, the only corrective action plan available is building a redundant protection system which requires appropriate lead times.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Ben Li - Independent Electricity System Operator - 2 - NPCC**

**Group Information**

Group Name: ISO/RTO Council Standards Review Committee

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Terry Bilke	MISO	MRO	2

**Voter Information**

**Voter** Segment

Ben Li 2

**Entity** Region(s)

Independent Electricity System Operator NPCC

**Selected Answer:** Yes

**Answer Comment:**

**While we generally support the scope and direction proposed in the SAR, some of the proposed changes to TPL-001-4 presented in the SAR (and in this Comment Form) are unclear. The final scope and the specific changes that will be made to the TPL-001-4 standard should address the protection components (e.g. batteries, instrument transformers, relays, communications) to be evaluated and how the components will be evaluated. In the second bullet, the replacement of Footnote 13 is fine but the wording should further reflect how the components will be evaluated. Further, the meaning of “evaluation of the three-phase faults the described component failures of a Protection System” in the last bulleted proposed change is unclear. Does it mean evaluation of a three phase fault combined with the component failure of a Protection System? This needs to be clarified.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Liam Stringham	Sunflower Electric Power Corporation	SPP	1
Jim Nail	City of Independence, Power & Light Department	SPP	3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5
John Allen	City Utilities of Springfield	SPP	1,4
Robert Gray	Board of Public Utilities of Kansas City, KS	SPP	3
Mike Kidwell	Empire District Electric	SPP	1,3,5
Kevin Foflygen	City Utilities of Springfield	SPP	3,5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Shannon Mickens	2
<b>Entity</b>	<b>Region(s)</b>
Southwest Power Pool, Inc. (RTO)	SPP

**Selected Answer:** Yes

**Answer Comment:**

Yes, we agree with scope and objective of this project. Additionally, we support the fact that the drafting team will be using the recommendations provided in the SPCS and SAMS report to develop a solid foundation for this project. Also, it's pertinent to consider the issues addressing Paragraph 81 as well as retirement in the Standards Development Process. As the project develops, we understand that the SDT scope may change but, we would suggest to the drafting team to work closely with the industry and use their comments and feedback as a corner stone to developing an effective and reliable standard.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Paul Malozewski - Hydro One Networks, Inc. - 3 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Justin Mosiman - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:** No

**Answer Comment:**

Bonneville Power Administration does not agree with the proposal because the proposal does not add significant value. Relay failure represents any protection system failure and should be modeled if not redundant. Bonneville Power Administration proposes to make efforts toward removing R1.1.2 (including known outages with a duration of six months) which would be more appropriate in the operations time frame than in a planning standard. Similarly, removing R2.1.1 (system peak load for either year one or year two....) would be a more appropriate proposal since it also is more appropriate in the operations time frame rather than a planning standard.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Allie Gavin - International Transmission Company Holdings Corporation - 1 - MRO,SPP,RFC**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC****Group Information**

Group Name: RSC no Con Edison, Dominion

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Paul Malozewski	Hydro One.	NPCC	1
Guy Zito	Northeast Power Coordinating Council	NPCC	NA - Not Applicable
Brian Shanahan	National Grid	NPCC	1
Rob Vance	New Brunswick Power	NPCC	1
Robert J. Pellegrini	United Illuminating	NPCC	1
Sylvain Clermont	Hydro Quebec	NPCC	1
Edward Bedder	Orange and Rockland Utilities	NPCC	1
Mark J. Kenny	Eversource Energy	NPCC	1
Gregory A. Campoli	NY-ISO	NPCC	2
Si Truc Phan	Hydro Quebec	NPCC	2
Randy MacDonald	New Brunswick Power	NPCC	2
David Burke	Orange and Rockland Utilities	NPCC	3
Wayne Sipperly	New York Power Authority	NPCC	4
David Ramkalawan	Ontario Power Generation	NPCC	4
Glen Smith	Energy Services	NPCC	4
Brian O'Boyle	Con Edison	NPCC	5
Brian Robinson	Utility Services	NPCC	5
Bruce Metruck	New York Power Authority	NPCC	6
Alan Adamson	New York State Reliability Council	NPCC	7
Kathleen M. Goodman	ISO-New England	NPCC	2
Helen Lainis	Independent Electricity System Operator	NPCC	2
Michael Jones	National Grid	NPCC	3
Silvia Parada Mitchell	NextEra Energy	NPCC	4

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Ruida Shu	1,2,3,4,5,6,7

<b>Entity</b>	<b>Region(s)</b>
Northeast Power Coordinating Council	NPCC

**Selected Answer:** Yes

**Answer Comment:**

While we generally support the scope and direction proposed in the SAR, some of the proposed changes to TPL-001-4 described in the SAR (and in this Comment Form) are unclear. Hence, we reserve our judgment on the final scope and the specific changes that will be made to the TPL-001-4 standard. For example, the replacement of FN 13 with the proposed language fails to mention of the placement of the functions or types of relay that will be replaced. We believe it should be more specific.

The meaning of the phrase “evaluation of the three-phase faults the described component failures of a Protection System” in the last bulleted proposed change is unclear. Does it mean evaluation of a three phase fault combined with the component failure of a Protection System? This needs to be clarified.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colleen Campbell - ACES Power Marketing - 6 - NA - Not Applicable**

**Group Information**

Group Name: ACES Standards Collaborators

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
John Shaver	Southwest Transmission Cooperative, Inc.	WECC	1
Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
Michael Brytowski	Great River Energy	MRO	1,3,5,6
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5
Scott Brame	North Carolina Electric Membership Corporation	SERC	3,4,5
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
Matthew Caves	Western Farmers Electric Cooperative	SPP	1,5
Matthew Caves	Western Farmers Electric Cooperative	SPP	1,5
Liam Stringham	Sunflower Electric Power Corporation	SPP	1

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Colleen Campbell	6
<b>Entity</b>	<b>Region(s)</b>
ACES Power Marketing	NA - Not Applicable

**Selected Answer:** No

**Answer Comment:**

(1) We generally agree with the scope and intent of this project, as recommended by the SPCS and SAMS. However, the SAR should clarify the meaning of “protective relays that respond to electrical quantities.” We believe this could include other relays outside the scope of the existing standard, such as sync-check relays. The list of relays that are in scope for this standard should remain at those that clear three-phase faults or other events of operational concerns.

(2) We have similar concerns that the applicability of this standard is inclusive of all BES Elements, not the sub-set identified and analyzed as part of the Section 1600 Data Request. The findings identify that buses under 300 kV are less likely to result in an adverse impact to reliability of the Bulk Power System based from a Protection System single point of failure. Proposing to collect data for all BES Elements poses an unnecessary administrative burden on registered entities and their models, especially considering that the findings do not support additional analysis under 300 kV. Moreover, analysis results identifying issues which adversely impact the reliability of the Bulk Power System could be masked by insignificant concerns.

(3) We recommend developing a methodology for the applicability of this standard that is similar to the criteria used in the Data Request, mainly to those buses more likely to have a significant stability impact on the Bulk Power System.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Phil Hart - Associated Electric Cooperative, Inc. - 1 -**

**Group Information**

Group Name: AECI

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Mark Ramsey	N.W. Electric Power Cooperative, Inc.	SERC	1
John Stickley	N.W. Electric Power Cooperative, Inc.	SERC	3
Kevin White	Northeast Missouri Electric Power Cooperative	SERC	1
Skyler Wiegmann	Northeast Missouri Electric Power Cooperative	SERC	3
Michael B Bax	Central Electric Power Cooperative	SERC	1
Adam M Weber	Central Electric Power Cooperative	SERC	3
Denise Stevens	Sho-Me Power Electric Cooperative	SERC	1
Jeff L Neas	Sho-Me Power Electric Cooperative	SERC	3
Walter Kenyon	KAMO Electric Cooperative	SERC	1
Theodore J Hilmes	KAMO Electric Cooperative	SERC	3
Phillip B Hart	Associated Electric Cooperative Inc.	SERC	1
Todd Bennett	Associated Electric Cooperative Inc.	SERC	3
Matt Pacobit	Associated Electric Cooperative Inc.	SERC	5
Brian Ackermann	Associated Electric Cooperative Inc.	SERC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Phil Hart	1

**Entity****Region(s)**

Associated Electric Cooperative, Inc.

**Selected Answer:** No

**Answer Comment:**

1. In the Order 754 data request, only a select set of busses meeting certain criteria were to be tested. However, the recommended language in the SAR would require entities to provide additional information relating to single points of failure for all BES busses. AECI would request that the additional information required by footnote 13 be only applicable to a select set of BES busses, and that this brightline be determined by the SDT.
2. AECI is not in disagreement with the final recommendation made by the SPCS and SAMS, however we would suggest that the drafting team be able to discuss which course of action would be best. This would allow for wider industry involvement in the decision on how the study of single points of failure should be addressed.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2 -**

**Selected Answer:** Yes

**Answer Comment:**

ERCOT supports the comments submitted by the Standards Review Committee of the IRC. Comments are below.

**While we generally support the scope and direction proposed in the SAR, some of the proposed changes to TPL-001-4 presented in the SAR (and in this Comment Form) are unclear. The final scope and the specific changes that will be made to the TPL-001-4 standard should address the protection components (e.g. batteries, instrument transformers, relays, communications) to be evaluated and how the components will be evaluated. In the second bullet, the replacement of Footnote 13 is fine but the wording should further reflect how the components will be evaluated. Further, the meaning of “evaluation of the three-phase faults the described component failures of a Protection System” in the last bulleted proposed change is unclear. Does it mean evaluation of a three phase fault combined with the component failure of a Protection System? This needs to be clarified.**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Payam Farahbakhsh - Hydro One Networks, Inc. - 1 -**

**Selected Answer:** Yes

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0



***2. If you have any other comments on this SAR that you haven't already mentioned above, please provide them here.***

**Kevin Conway - INTELLIBIND - 5 - NA - Not Applicable**

**Selected Answer:**

**Answer Comment:**

None

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Guy V. Zito - Northeast Power Coordinating Council - 10 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Fontenot - Bryan Texas Utilities - 1 -**

**Selected Answer:**

**Answer Comment:**

na

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Gul Khan - Oncor Electric Delivery - 2 - TRE**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Rachel Coyne - Texas Reliability Entity, Inc. - 10 -**

**Selected Answer:**

**Answer Comment:**

Texas RE noticed the proposed language for Footnote 13 in TPL-001-4, does not match the NERC Glossary term of Protection System.

The language proposed in the SAR for “protective relays” and “DC control circuitry” largely tracks the definition of “Protection System” set forth in the NERC Glossary of Terms. The sole substantive distinction appears to be limiting the general category of “control circuitry” explicitly to “DC control circuitry” consistent with recommendation in the Order No. 754 Report.

In contrast, the SAR (and the Order No. 754 Report) places additional, qualifying language on the definition of “station DC supply” that is not contained in the definition of Protection System in the NERC Glossary of Terms. Specifically, the “Protection System” definition in the NERC Glossary of Terms includes: “Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery based dc supply).” The SAR (and the recommended language in Order No. 754 Report) qualifies this language by describing “station DC supply” as “single-station DC supply that is not monitored (i.e., not reported within 24 hours of detecting an abnormal condition to a location where corrective action can be initiated).”

Texas RE recommends that the SDT use of the existing definition of station DC Supply in the NERC Glossary of Terms. Using consistent language in both Standards would help entities classify their dc supply components in a uniform manner across their compliance program.

**Is the intent to create a new definition of station DC supply?** If so, Texas RE recommends the SDT request comments from stakeholders regarding a new definition of station DC supply so the rationale for such change can be fully developed.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Nick Vtyurin - Manitoba Hydro - 1,3,5,6 - MRO**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Thomas Foltz - AEP - 5 -**

**Selected Answer:**

**Answer Comment:**

The (future) SDT should emphasize both feasibility and practicality in any future requirements regarding system modeling, and the implementation thereof.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John Seelke - PSEG - 1,3,5,6 - WECC,NPCC**

**Group Information**

Group Name: PSEG

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joseph Smith	Public Service Electric and Gas	RFC	1
Jeffrey Mueller	Public Service Electric and Gas Co.	RFC	3
Tim Kucey	PSEG Fossil LLC	RFC	5
Karla Jara	PSEG Energy Resources & Trade LLC	RFC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
John Seelke	1,3,5,6
<b>Entity</b>	<b>Region(s)</b>
PSEG	WECC,NPCC

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO**

**Group Information**

Group Name: MRO-NERC Standards Review Forum (NSRF)

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5
Amy Casucelli	Xcel Energy	MRO	1,3,5,6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Emily Rousseau	1,2,3,4,5,6
<b>Entity</b>	<b>Region(s)</b>
MRO	MRO

**Selected Answer:**

**Answer Comment:** N/A

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP**

**Selected Answer:**

**Answer Comment:**

Additionally, we also support the issues identified by MRO NSRF as outlined below:

Consider adding other items to the scope of the SAR to address several specific deficiencies that have been found in the TPL-001-4 standard.

- Table 1, Header note i – Revise note i because the present text can be interpreted to contradict the NERC Definition for Non-Consequential Load Loss. The response of voltage sensitive load and load disconnected from the System by end-user equipment are not Non-Consequential Load Loss. So by definition, response of voltage sensitive load and load disconnected from the System by end-user equipment are excluded from the steady state Non-Consequential Load Loss Allowed performance requirement. Wording like, “. . . associated with a planning event is allowed” may be clearer and not contradictory.

- Cascading clarification – Clarify the understanding the NERC definition of Cascading (e.g. Table 1, header note a). The subsequent loss of system elements, load, or generation is classified as Cascading when it results in widespread electric service interruption. Therefore, the loss of line circuits, transformer circuits, generators, or limited amounts of load due to cascading does not qualify as exceeding the Cascading performance requirement.

- Load loss due to cascading – Address the treatment of load loss due to cascading - perhaps with an additional Table 1 footnote. Load loss due to cascading does not meet the NERC definition of either Consequential Load Loss or Non-Consequential Load Loss. So, cascading load loss does not apply to the Non-Consequential Load Loss Allowed performance requirement. However, an additional performance requirement should probably be added that the sum of cascading load loss and Non-Consequential Load Loss should not exceed an entity's IROL criteria.

- Use of sensitivity cases in extreme event analysis – Revise the wording in R3 and R4 (e.g. referring to Part 2.1 or Part 2.4 without limiting the obligation to planning event studies) to remove the obligation to use sensitivity cases in extreme event studies (i.e. R3.2 and R4.2). Extreme event studies using baseline cases (R2.1.1, R2.1.2, R2.2.1, R2.4.1, and R2.4.2) are essentially probing studies that consider extraordinary contingencies. Extreme event studies using sensitivity cases (R2.1.4 and R2.4.3) are essentially probing studies that consider the compounded effect of both extraordinary contingencies and extraordinary system conditions. The obligation to perform these compound effect studies results in an unreasonable expenditure of resources compared to the information gained regarding potential consequences and adverse impacts.

- Transfer levels used in near term planning horizon System models – Include wording (perhaps in R2.1.4 – Expected transfers and R2.4.3 – Expected

transfers) which explains that expected transfers used in the sensitivity cases must not exceed Transfer Capabilities assessment results that were determined in accordance with the effective NERC FAC-013 Reliability Standard.  
• Table 1, Footnote 1 – Revise the wording of footnote 1 of Table to add more clarity. For example, that an element is removed, not just open ended, by a Protection System operation designed to isolate the event fault. The voltage level of an unloaded winding of a three-winding transformer is excluded from the determination.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Leonard Kula - Independent Electricity System Operator - 2 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Joe Tarantino - Sacramento Municipal Utility District - 1,3,4,5,6 - WECC**

**Selected Answer:**

**Answer Comment:**

The proposed changes to R4.5 appear to add unnecessary redundancy and eliminate the efficiencies gained through applicable “engineering judgment.” This issue should be addressed, as noted in our response to question #1, by including proper industry vetting that considers input from a broader audience.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Richard Vine - California ISO - 2 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Andrew Pusztai - American Transmission Company, LLC - 1 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**William Temple - PJM Interconnection, L.L.C. - 2 - SERC,RFC**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Brent Ingebrigtsen - PPL NERC Registered Affiliates - 1,3,5,6 - SERC,RFC**

**Group Information**

Group Name: PPL NERC Registered Affiliates

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Brent Ingebrigtsen	LG&E and KU Energy, LLC	SERC	1,3,5,6
Brenda Truhe	PPL Electric Utilities Corporation	RFC	1
Charlie Freibert	LG&E and KU Energy, LLC	SERC	3
Dan Wilson	LG&E and KU Energy, LLC	SERC	5
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Brent Ingebrigtsen	1,3,5,6
<b>Entity</b>	<b>Region(s)</b>
PPL NERC Registered Affiliates	SERC,RFC

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Ben Li - Independent Electricity System Operator - 2 - NPCC**

**Group Information**

Group Name: ISO/RTO Council Standards Review Committee

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Terry Bilke	MISO	MRO	2

**Voter Information**

**Voter** **Segment**

Ben Li 2

**Entity** **Region(s)**

Independent Electricity System Operator NPCC

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP**

**Group Information**

Group Name: SPP Standards Review Group

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Liam Stringham	Sunflower Electric Power Corporation	SPP	1
Jim Nail	City of Independence, Power & Light Department	SPP	3,5
Mahmood Safi	Omaha Public Power District	MRO	1,3,5
John Allen	City Utilities of Springfield	SPP	1,4
Robert Gray	Board of Public Utilities of Kansas City, KS	SPP	3
Mike Kidwell	Empire District Electric	SPP	1,3,5
Kevin Foflygen	City Utilities of Springfield	SPP	3,5

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Shannon Mickens	2

  

<b>Entity</b>	<b>Region(s)</b>
Southwest Power Pool, Inc. (RTO)	SPP

**Selected Answer:**

**Answer Comment:**

We have a concern in reference to the recommendations suggested in the SAR on page 2....bullet number 3. We would ask the drafting team to provide clarity on what is being suggested by this particular recommendation. In our discussion, we interpreted that the recommendation is suggesting that entities will have to obtain substantially more data than what is already required. This could cause issues in getting the study(s) completed in a proper time frame. However if that is the case, we would suggest to the drafting team to use some form of criteria limiting the study of component failures to only High Priority Facilities (for example 200kV

and above and sub-200kV IROL facilities as in FAC-003) instead of all of the BES Elements in order to reduce the magnitude of study and data collection.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Paul Malozewski - Hydro One Networks, Inc. - 3 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Justin Mosiman - Bonneville Power Administration - 1,3,5,6 - WECC**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Allie Gavin - International Transmission Company Holdings Corporation - 1 - MRO,SPP,RFC**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC****Group Information**

Group Name: RSC no Con Edison, Dominion

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Paul Malozewski	Hydro One.	NPCC	1
Guy Zito	Northeast Power Coordinating Council	NPCC	NA - Not Applicable
Brian Shanahan	National Grid	NPCC	1
Rob Vance	New Brunswick Power	NPCC	1
Robert J. Pellegrini	United Illuminating	NPCC	1
Sylvain Clermont	Hydro Quebec	NPCC	1
Edward Bedder	Orange and Rockland Utilities	NPCC	1
Mark J. Kenny	Eversource Energy	NPCC	1
Gregory A. Campoli	NY-ISO	NPCC	2
Si Truc Phan	Hydro Quebec	NPCC	2
Randy MacDonald	New Brunswick Power	NPCC	2
David Burke	Orange and Rockland Utilities	NPCC	3
Wayne Sipperly	New York Power Authority	NPCC	4
David Ramkalawan	Ontario Power Generation	NPCC	4
Glen Smith	Energy Services	NPCC	4
Brian O'Boyle	Con Edison	NPCC	5
Brian Robinson	Utility Services	NPCC	5
Bruce Metruck	New York Power Authority	NPCC	6
Alan Adamson	New York State Reliability Council	NPCC	7
Kathleen M. Goodman	ISO-New England	NPCC	2
Helen Lainis	Independent Electricity System Operator	NPCC	2
Michael Jones	National Grid	NPCC	3
Silvia Parada Mitchell	NextEra Energy	NPCC	4

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Ruida Shu	1,2,3,4,5,6,7
<b>Entity</b>	<b>Region(s)</b>
Northeast Power Coordinating Council	NPCC
<b>Selected Answer:</b>	
<b>Answer Comment:</b>	
<p>When a standard is being revised, all open issues related to that standard should be resolved. In the interest of efficiency we recommend that the two directives from FERC Order 786 be added to the scope of this SAR. For reference please see the Reliability Standards Development Plan 2016 Projects 2015-10: "From FERC Order 786:</p> <ol style="list-style-type: none"> <li>1. Paragraph 40 directs NERC to modify Reliability Standard TPL-001-4 to address the concern that the six-month threshold could exclude planned maintenance outages of significant facilities from future planning assessments.</li> <li>2. 2. Paragraph 89 directs NERC to consider a similar spare equipment strategy for stability analysis upon the next review cycle of Reliability Standard TPL-001-4."</li> </ol> <p>The SAR should address all directives and all changes needed in the standard.</p> <p>Additional points needing clarifications which should be added to the scope of the SAR and provide needed corrections to TPL-004-1 include:</p> <ol style="list-style-type: none"> <li>1. The SAR requires studying three phase faults with protection system failure. It is not clear how the protection systems deficiencies will be corrected, when identified, since there is no obligation to the meet performance criteria for extreme events.</li> <li>2. The revised standard should formalize the process described in the Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request that was used to identify the protection systems that do not</li> </ol>	

meet the redundancy criteria. The protection systems owners will need to have obligations since they are responsible for both identifying and correcting the design deficiencies.

3. There are situations when non BES elements are connected to BES buses (e.g. radial circuits supplying loads). The SAR needs to clarify which protection systems are subject to the standard since an un-cleared close in fault on a non BES element connected to a BES bus has the same reliability consequence as an un-cleared close in fault on a BES element. Do the protection systems installed on non BES elements but connected to BES buses need to meet redundancy criteria?

4. Since the TPL-001-4 standard is going to be revised we believe there is a good opportunity to clarify the following discrepancy:

In Table 1 of the standard, the use of non-consequential load loss is allowed under Footnote 12 conditions for P1, P2, and P3 planning events for the elements operated at EHV level. However, planning events P4 and P5 do not allow the use of non-consequential load loss at EHV level.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Colleen Campbell - ACES Power Marketing - 6 - NA - Not Applicable**

**Group Information**

Group Name: ACES Standards Collaborators

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
John Shaver	Southwest Transmission Cooperative, Inc.	WECC	1
Shari Heino	Brazos Electric Power Cooperative, Inc.	TRE	1,5
Michael Brytowski	Great River Energy	MRO	1,3,5,6
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5
Scott Brame	North Carolina Electric Membership Corporation	SERC	3,4,5
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
Matthew Caves	Western Farmers Electric Cooperative	SPP	1,5
Matthew Caves	Western Farmers Electric Cooperative	SPP	1,5
Liam Stringham	Sunflower Electric Power Corporation	SPP	1

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Colleen Campbell	6
<b>Entity</b>	<b>Region(s)</b>
ACES Power Marketing	NA - Not Applicable

**Selected Answer:**

**Answer Comment:**

(1) We agree with the directions given in the SAR to consider retiring requirements under Paragraph 81 criteria. However, we do have concerns that the SAR does not specify requirements within this standard, such as Requirement R4, parts 4.2 and 4.5, which would qualify for P81 criteria or further consolidation. Moreover, Requirement R1 references reliability standards MOD-010 and MOD-012 which are projected to be retired in 2016. We recommend the SAR be expanded to incorporate requirement consolidations and retirements, both current and projected.

(2) We thank you for this opportunity to provide these comments.

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Robert A. Schaffeld - Southern Company - Southern Company Services, Inc. - 1 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**R. Scott Moore - Southern Company - Alabama Power Company - 3 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**John J. Ciza - Southern Company - Southern Company Generation and Energy Marketing - 6 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Phil Hart - Associated Electric Cooperative, Inc. - 1 -**

**Group Information**

Group Name: AECI

<b>Group Member Name</b>	<b>Entity</b>	<b>Region</b>	<b>Segments</b>
Mark Ramsey	N.W. Electric Power Cooperative, Inc.	SERC	1
John Stickley	N.W. Electric Power Cooperative, Inc.	SERC	3
Kevin White	Northeast Missouri Electric Power Cooperative	SERC	1
Skyler Wiegmann	Northeast Missouri Electric Power Cooperative	SERC	3
Michael B Bax	Central Electric Power Cooperative	SERC	1
Adam M Weber	Central Electric Power Cooperative	SERC	3
Denise Stevens	Sho-Me Power Electric Cooperative	SERC	1
Jeff L Neas	Sho-Me Power Electric Cooperative	SERC	3
Walter Kenyon	KAMO Electric Cooperative	SERC	1
Theodore J Hilmes	KAMO Electric Cooperative	SERC	3
Phillip B Hart	Associated Electric Cooperative Inc.	SERC	1
Todd Bennett	Associated Electric Cooperative Inc.	SERC	3
Matt Pacobit	Associated Electric Cooperative Inc.	SERC	5
Brian Ackermann	Associated Electric Cooperative Inc.	SERC	6

**Voter Information**

<b>Voter</b>	<b>Segment</b>
Phil Hart	1

**Entity**

**Region(s)**

Associated Electric Cooperative, Inc.

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0

**Payam Farahbakhsh - Hydro One Networks, Inc. - 1 -**

**Selected Answer:**

**Answer Comment:**

**Document Name:**

**Likes:** 0

**Dislikes:** 0



