

Survey Report

Survey Details

Name 2010-05.3 Phase 3 of Protections Systems: RAS | PRC-012-2

Description

4/30/2015

Start Date

End Date

5/20/2015

Associated Ballots

Survey Questions

1. RAS review and approval (Requirements R1, R2 and R3): Do you agree that RAS should be reviewed and approved by an independent party prior to placing the RAS in-service? If no, please state the basis for your disagreement and an alternative approach.

Yes

No

2. Information listed in Attachment 1 (Requirement R1): Do you agree that the RAS information required in Attachment 1 is a comprehensive list? If no, please identify what other information you think is necessary for a thorough RAS review.

Yes

No

3. Choice of Reliability Coordinator (Requirements R1, R2 and R3): Do you agree with the Reliability Coordinator being the functional entity designated to review the RAS? If no, please provide the basis for your disagreement, your choice of functional entity to conduct the reviews, and the rationale for your choice.

Yes

No

4. Checklist in Attachment 2 (Requirement R2): Do you agree that the checklist in Attachment 2 provides a comprehensive guide for the Reliability Coordinator to facilitate a thorough RAS review? If no, please identify what other reliability-related considerations should be included in Attachment 2 and the rationale for your choice.

Yes

No

5. Choice of Transmission Planner (Requirement R4): The Transmission Planner is required to perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS. Do you agree with the Transmission Planner being the functional entity designated to evaluate the RAS? If no, please provide the basis for

your disagreement, your choice of functional entity to conduct the evaluations, and the rationale for your choice.

Yes

No

6. No RAS Classification (Requirement R4): The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: "Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0." Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1. Do you agree that the language of Requirement R4, its Parts, and Attachment 1 accomplish the objectives of RAS "classification" without having a formal RAS classification system in the standard? If no, please provide the basis for your disagreement and describe an alternate proposal.

Yes

No

7. RAS Operational Analyses (Requirement R6): Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies Do you agree that the application of Requirement R6 and its Parts would identify performance deficiencies in RAS? If

no, please provide the basis for your disagreement and an alternate proposal.

Yes

No

8. Corrective Action Plans (Requirements R5, R7, and R8): Do you agree that the application of Requirements R5, R7, and R8 would address the reliability objectives associated with CAPs? If no, please provide the basis for your disagreement and describe an alternate proposal.

Yes

No

9. Functional Testing of RAS (Requirement R9): Do you agree that functional testing of each RAS would verify the overall RAS performance and the proper operation of non-Protection System components? If no, please provide the basis for your disagreement and describe an alternate proposal.

Yes

No

10. Choice of Reliability Coordinator (Requirement R10): Do you agree with the Reliability Coordinator being the functional entity designated to maintain the RAS database? If no, please provide the basis for your disagreement, your choice of functional entity, and the rationale for your choice.

Yes

No

11. Information listed in Attachment 3 (Requirement R10): Do you agree that the RAS information required in Attachment 3 provides the Reliability Coordinator with enough detail of each RAS to meet its reliability-related needs? If no, please identify what other reliability-related information should be included in Attachment 3 and the rationale for your choice.

Yes

No

12. Requirement R11: Is there a reliability benefit of Requirement R11? Please provide the rationale

for your answer.

Yes

No

13. Choice of RAS-entity (Requirement R11): Do you agree with the RAS-entity being the entity designated to provide the detailed RAS information to other registered entities with a reliability-related need? If no, please provide the basis for your disagreement, your choice of entity, and the rationale for your choice.

Yes

No

14. If you have any other comments that you haven't already provided in response to the above questions, please provide them here.

Responses By Question

1. RAS review and approval (Requirements R1, R2 and R3): Do you agree that RAS should be reviewed and approved by an independent party prior to placing the RAS in-service? If no, please state the basis for your disagreement and an alternative approach.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Note that Attachment 1, section III Implementation, criterion 2 should be revised slightly as it is too wide and somewhat ambiguous. The devices to be analyzed should be tied to the protection system definition and performance to meet TPL-001-4.

“Documentation showing that any multifunction device used to perform RAS functions...”

Revise the above to state something like, “Documentation showing that a malfunction of a NERC Protection System component in the RAS does not compromise the ability of the RAS to meet TPL-001-4 and its successors.”

Document Name:

Likes: 0

Dislikes: 0

Selected Answer: Yes

Answer Comment:

While we do not object to the RAS being reviewed and approved by an independent party for new systems, AEP seeks clarity to ensure that existing evaluations on record, performed by the RRO, would be grandfathered.

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

We agree that a RAS should be reviewed prior to placing in service. However it is not clear what an independent party is. If that party is the RC (or in our proposal, under Q3 below, the RC or the PC depending on the time frame), then that should be fine. Otherwise, please specify.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: No

Answer Comment:

Comments: PacifiCorp does not agree that the RAS should be reviewed and approved by an independent party prior to placing the RAS in service. PacifiCorp believes that RAS review should be undertaken by the planning coordinator, the transmission planner and neighboring transmission planners as they are the parties that possess the requisite knowledge to make a determination as to the appropriateness of the RAS.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

We agree that RAS should be approved prior to service. The R1 approval process should add a period of time that the RAS entity should submit the RAS information prior to the expected in-service date to ensure adequate time for review is provided.

R1. At least 180 days prior to placing a new or functionally modified RAS in-service, or retiring an existing RAS, each RAS-entity shall submit the information identified in Attachment 1 and Attachment 3 to the reviewing Reliability Coordinator(s). **At least 30 days prior to placing an RAS in service as part of a CAP, each RAS entity shall submit updated Attachment 1 and Attachment 3 information.** [Violation Risk Factor:] [Time Horizon:]

R2 should be modified as follows to include the Attachment 3 information.

R2. For each RAS submitted pursuant to Requirement R1, each reviewing Reliability Coordinator shall, within four full calendar months of receipt of Attachment 1 **and Attachment 3** materials, or on a mutually agreed upon schedule, perform a review of the RAS in accordance with Attachment 2, and provide written feedback to the RAS-entity. [*Violation Risk Factor:*] [*Time Horizon:*]

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We suggest that R1 may be adjusted to clarify that the intent is for the data to be submitted to the RC to perform its analysis (per R2) prior to putting the RAS in-service. The current wording is unclear in R1 that the RAS may not be put into service until the approval is received by the RC (per R3).

For example: "R1: Each RAS-entity shall submit the information identified in Attachment 1 to the

reviewing Reliability Coordinator(s) for approval prior to placing a new or functionally modified RAS in-service or retiring an existing RAS."

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment:

Oncor Electric Delivery believes that it is a good idea to have an independent party review any RAS. However, 90 days for the review seems more reasonable since they are just reviewing the scheme.

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

However, Duke Energy feels that an Independent Third Party is necessary only in the rare occasions when a “conflict of interest” exists among the RAS Entity, PC, TP, or other entity that could be involved in the planning or implementation of a RAS.

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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:

Yes, RAS should be reviewed and approved by the Reliability Coordinator prior to being placed in-service instead of the independent party.

Document Name:

Likes: 0

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

But we do not believe this should be the RC. The current NERC Regions (not Regional Entities) have long-standing and effective committee structures that give SPSs thorough technical reviews involving engineering staff from all impacted entities. We would recommend the drafting team allow the use of collaborative forums (in which RCs and PC participate) as a means to perform the analysis and reviews in the standard.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

An independent party review for an RAS application is inappropriate since an independent party may not understand the complexity of the application without significant investment in time, resources and experience. In addition, an independent party may not understand the required coordination across interconnected systems and may not be as invested in a positive and effective outcome as a potentially impacted party. An alternative approach would be to use a coordinated review by potentially impacted parties including Planning Authorities or

Regional Entities.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

The Transmission Planner or Planning Coordinator, where RAS impacts multiple Transmission Planners, is the correct function to determine where a RAS Scheme is required. The SDT has not justified why a review step is needed. No other Facility upgrade, installation or protection system addition requires a third party review. There is a planned Protection System Coordination Standard but that is very limited in its coordination. The need for an RAS is

determined from TPL studies and planned system performance. The standard can provide the RC with an opportunity to provide opinion, but not approval. There is no need for a third party review.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

However, Tri-State believes there should be additional language added to acknowledge that Transmission Operators should be allowed to provisionally implement a proposed RAS in cases where there are immediate reliability needs. The standard as currently drafted does not allow for this.

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We agree with the need to have a higher level reliability authority with a Wide Area view such as Planning Coordinator or Reliability Coordinator. However, we do not understand the emphasis on independence especially when there are FERC standards of conduct and entity level codes of conduct. Furthermore, selecting a Reliability Coordinator or Planning Coordinator will not guarantee this independence anyway as there are still Reliability Coordinators and Planning Coordinators affiliated with equipment owners. Thus, we suggest focusing on the functional entity that should be responsible which we believe is the Planning Coordinator. When entities were registered any issues with independence should have been resolved.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1) Hydro One Networks Inc. agrees with NPCC in that:

Because of its familiarity with its system, it is appropriate for the RC to review a RAS, and requirement R1 identifies the RC as the reviewer. We note that the RC may not be an “independent party” nor does the requirement calls for an “independent party.” Conducting a proper review of the RAS’s performance and design is more critical than maintaining “independence”. An alternative approach is used within NPCC. The PC has the accountability to seek approval for deployment of a new or modified RAS and this process is outlined in NPCC Directory 7, Appendix B. The review is conducted by a group of entities including subject matter experts from RC, TOs, PCs.

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

As specified by the SDT, RAS are complex schemes with lots of possible actions that can have a significant impact on BES reliability. It is essential for those schemes to be reviewed by independent entities with expertise in various fields. However, Hydro-Quebec TransEnergie (HQT) thinks that the RC may not always be an independent party as a RAS reviewer. Some RCs have multiple PCs and TOPs within their footprint. Some other RCs perform also TOP functions related to RAS utilization on their BES system.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Texas RE recommends providing some clarification around what it means to be a RAS-entity and RAS-owner. The Functional Entity

referred to as "RAS-entity" should be the "RAS-owner" if there is only a single owner, correct? Who does the designation for the representation? Again, is that assumed to be the owner in a single owner RAS?

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1) Hydro One Networks Inc. agrees with NPCC in that:

Because of its familiarity with its system, it is appropriate for the RC to review a RAS, and requirement R1 identifies the RC as the reviewer. We note that the RC may not be an "independent party" nor does the requirement calls for an "independent party." Conducting a proper review of the RAS's performance

and design is more critical than maintaining “independence”. An alternative approach is used within NPCC. The PC has the accountability to seek approval for deployment of a new or modified RAS and this process is outlined in NPCC Directory 7, Appendix B. The review is conducted by a group of entities including subject matter experts from RC, TOs, PCs.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

The owner of any protection scheme should be responsible for the correct design and implementation of the scheme – RAS or not. Just like the design of switching to create a blackstart cranking path by a TOP in EOP-005-2, Requirement 6 must be verified by that TOP, the owner of the RAS should be held to the same expectation that the RAS is correctly designed and implemented. If the SDT still believes that some sort of review is required, then that review should be limited in scope to reviewing the generic content of the RAS design and not delve into the technical depth identified in some parts of Attachment 2.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

Answer Comment:

For new or functionally modified RAS's, the standard should be written in a way that ensures the appropriate functional entities are involved in the 1) identification of need for an RAS, 2) initial design and assessment of the RAS, and 3) coordination with other functional entities who may be impacted by operation of the RAS, before a new or functionally modified RAS is placed in-service. There may be some registry situations where all three of these objectives can be accomplished within the same company if no neighboring entities are impacted by the RAS. In such instances, review and approval by an "independent party" should not be a pre-requisite to placing an RAS in-service. We have no objection to involving the appropriate Reliability Coordinator(s) in these pre-requisite steps to RAS implementation.

Document Name:

Likes: 0

Dislikes: 0

2. Information listed in Attachment 1 (Requirement R1): Do you agree that the RAS information required in Attachment 1 is a comprehensive list? If no, please identify what other information you think is necessary for a thorough RAS review.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: No

Answer Comment:

More detail is needed regarding RAS retirement. The RAS Entity must provide clarity regarding what system conditions would qualify the RAS to be retired/disabled, in order to prevent an RAS from being in service when one is not required.

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer:

No

Answer Comment:

We generally agree with the information required in Attachment 1, but suggest the following changes:

Under Item II, second last bullet: revise “An evaluation indicating that the RAS avoids adverse interactions with other RAS, and protection and control systems.” to “An evaluation demonstration that the RAS settings and operations are properly coordinated with those of other RAS and protection and control systems”.

In addition, we propose that the SDT to add/specify the minimum design criteria as they are needed to achieve both dependability and security. Clear acceptable design criteria should to be included in the standard to allow common RAS design practice across the continent. In the absence of minimum design requirements, it will be difficult for the RC to assess and for the RAS owners to design the appropriate level of redundancy as one of the actions specified in the Attachment 1 requires. Further, it is not clear if “interconnected transmission system” refers to Bulk Electric System as defined by NERC. Please clarify.

Document Name:

Likes:

0

Dislikes:

0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment:

Documentation showing coordination with other NERC functional entities that may be impacted by the RAS beyond RCs.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: No

Answer Comment:

The third item in Section II only requires a summary of technical studies be provided. In addition to the summary, the technical studies

themselves should be provided.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment:

Oncor Electric Delivery believes the list contains more than is necessary for a review and cannot always be obtained for every RAS. In fact, unless the RAS is an existing system during the review period there are usually no schematics to review so I do not believe it is appropriate to request schematic diagrams. The second bullet under General section I asks for "functionality of a new RAS", which would be a relay functional diagram that depicts how the scheme works and that would be available during the review process.

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment: ERCOT supports the SRC comments regarding Attachment 1.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Duke Energy requests further explanation on the removal of the
“extreme event” classification.

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

From the Attachment 1 introductory paragraph, "When a RAS has been previously reviewed, only the proposed modifications to that RAS require review; however, it will be helpful to the reviewers if the RAS entity provides a summary of the previously approved functionality." In

order to effectively review a proposed modification, a reviewer has to understand the original RAS functionality. Suggest changing the wording to "...however, the RAS entity must provide a summary of the previously approved functionality." Requirement R1 and Attachment 1 mandate "Functionality of new RAS or proposed functional modification to existing RAS and documentation of the pre- and post-modified functionality of the RAS" is under I. General, and in Requirement R1 as information that has to be submitted. The wording in the introductory paragraph needs to be revised.

In the RAS Retirement Section suggest revising the wording of the second bullet to read:

A summary of applicable technical studies and technical justifications needs to be provided upon which the decision to retire the RAS is based.

The term "interconnected transmission system" in Section III, bullet 4, is not clear. This is critical as it would affect the redundancy requirement, especially to RAS installed only to mitigate local BES issues. "System", being defined in the NERC Glossary, should be capitalized.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: No

Answer Comment:

The 3rd and 4th boxes under "III. Implementation" contain undefined terms, that are unclear, confusing, and duplicative. Tri-State recommends replacing both boxes with:

"Documentation to demonstrate that any single piece of the equipment used to implement the RAS can either be taken out of service or fail, without disabling or compromising the reliability of the RAS."

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

While we agree that Attachment 1 includes an exhaustive list of information, we have three concerns with Attachment 1. First, it includes a reference to performance in the TPL-001-4 studies. There is no need to reference the TPL standard anywhere in this standard. TPL should stand alone and will ensure that those performance requirements are met. There have been issues in the past when standards cross-reference other standards. Second, the information required describing the equipment we believe is more detail than is needed to be reviewed by the PC or RC. The PC and RC simply need the information such as the potential actions and associated contingencies and any failure modes (e.g. RAS partially operates) which could include an expanded list of contingencies to study along with RAS actions. They do not need to be familiar with the actual equipment to perform this review. Third, we do not believe it should be the RAS-entity (i.e. equipment owner) that submits the evaluation of interactions with other RAS. Rather, we believe this is the PC's responsibility and the PC should already have studied and approved the RAS at this juncture.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Requirement R1 currently requires the 'RAS-entity' to provide the documentation in Attachment 1. The 'RAS-entity' term is a very generic term as either the RAS-Owner or RAS-Planner could be identified as a 'RAS-entity'. The standard should be more specific as to who should provide the information in Attachment 1. The RAS-Owner can only provide the information in Section I and Section III in Attachment 1. Section II should be specific to the Transmission Planner/RAS-Planner as the RAS-Owner

(Transmission Owner) does not have all the tools and information to perform and provide the studies/documentation for this section.

2) Attachment 1 is specific to identifying which documentation should be provided by a RAS-entity. In the Implementation (Section III) requirements, there is a requirement that states documentation must be provided to show “that an appropriate level of redundancy is provided...” If there is a requirement to provide redundancy, it should be a separate requirement, explicitly stated, and not reside in an Attachment outside of Requirement R1, where this crucial detail could easily be missed.

3) The statement, “the RC may request additional information on any reliability issue related to the RAS” should be moved from Attachment 2 to Attachment 1.

4) The checklist particularly that in Attachment 1 should be shortened and/or replaced by a simpler list. The reviewer (RC) may further decide on the details.

5) Hydro One Networks Inc. agrees with NPCC on the following:

The term “Interconnected Transmission System” in Section iii, bullet 4, is not clear. This is critical as it would affect the redundancy requirement, especially to RAS installed only to mitigate local BES issues.

The list in Attachment 1 should explicitly include arming requirement and how it is achieved.

The Drafting team could consult NPCC Directory 7 including Appendix B for a comprehensive list of parameters that are reviewed for new/modified RAS.

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

HQT agrees with the information required in Attachment 1 for review purpose, with the following comments:

- Please clarify what is expected for “single component failure”. We believe it should include only duplication of electrical components. Please indicate that physical separation is not intended (such as a tower carrying two communication links).

- Part II, 5th paragraph: the reference to TPL and to performance requirements is not clear. We propose the following modification - “... satisfies the voltage, frequency and stability performance requirements of Table 1 of NERC Reliability Standard TPL-001-4 or its successor.” If the intent of referring to P7 contingencies is the allowance for non-

consequential and firm load loss, this should be stated more explicitly in the standard.

- Part III, 4th paragraph: please indicate clearly that this requirement applies only to RAS needed to respect System performance under TPL-001-4 contingencies, and not for all other RAS. There is some confusion as to which RAS does this requirement apply to. Attachment 1 refers to TPL-001-4, but not the guidelines for Attachment 1, neither does Attachment 2. Does this apply only to RAS installed to meet TPL? This is how HQT interprets the current language. What about the RAS installed to meet other NERC standards (FAC, TOP, ...) ? Clarification is needed in the language used for this requirement. Depending on the interpretation, the current language may read as if redundancy would be required for RAS installed to meet regional requirements beyond NERC TPL.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE is concerned that the UVLS standards will not capture UVLS as UVLS program in the ERCOT interconnection and that the RAS definition does not cover UVLS. Additionally, this standard only mentions new or modified RAS and does not account for the fact that RAS could be in place right now. Texas RE recommends clarify regarding "reliability related need" as this statement is vague and could lead to multiple interpretations.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Hydro One Networks Inc.:

1) Requirement R1 currently requires the 'RAS-entity' to provide the documentation in Attachment 1. The 'RAS-entity' term is a very generic term as either the RAS-Owner or RAS-Planner could be identified as a 'RAS-entity'. The standard should be more specific as to who should provide the information in Attachment 1. The RAS-Owner can only provide the information in Section I and Section III in Attachment 1. Section II should be specific to the Transmission Planner/RAS-Planner as the RAS-Owner (Transmission Owner) does not have all the tools and information to perform and provide the studies/documentation for

this section.

2) Attachment 1 is specific to identifying which documentation should be provided by a RAS-entity. In the Implementation (Section III) requirements, there is a requirement that states documentation must be provided to show “that an appropriate level of redundancy is provided...” If there is a requirement to provide redundancy, it should be a separate requirement, explicitly stated, and not reside in an Attachment outside of Requirement R1, where this crucial detail could easily be missed.

3) The statement, “the RC may request additional information on any reliability issue related to the RAS” should be moved from Attachment 2 to Attachment 1.

4) The checklist particularly that in Attachment 1 should be shortened and/or replaced by a simpler list. The reviewer (RC) may further decide on the details.

5) Hydro One Networks Inc. agrees with NPCC on the following:

The term “Interconnected Transmission System” in Section iii, bullet 4, is not clear. This is critical as it would affect the redundancy requirement, especially to RAS installed only to mitigate local BES issues.

The list in Attachment 1 should explicitly include arming requirement and how it is achieved.

The Drafting team could consult NPCC Directory 7 including Appendix B for a comprehensive list of parameters that are reviewed for new/modified RAS.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We generally agree with the information required in Attachment 1, but suggest the following changes:

Under Item II, second last bullet: revise “An evaluation indicating that the RAS avoids adverse interactions with other RAS, and protection and control systems.” to “An evaluation demonstration that the RAS settings and operations are properly coordinated with those of other RAS and protection and control systems”.

The SRC recommends that Requirement R2 be clarified to indicate that the four month time period for RAS evaluations commences when all information required by Attachment 1 is received. The following clarification is suggested:

“For each RAS submitted pursuant to Requirement R1, each reviewing Reliability Coordinator shall, within four full calendar months of receipt of all information required to be provided to the Reliability Coordinator in Attachment 1, or on a mutually agreed upon schedule, perform a review of the RAS in accordance with Attachment 2, and provide written feedback to the RAS-entity...”

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

- Should the first item in the Implementation Section clarify the minimum level of control & monitoring to achieve adequate situational awareness for the scheme?

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

Answer Comment:

Requirement R4 requires the Transmission Planner to perform a periodic evaluation of each RAS within its planning area at least once every 60 calendar months. Attachment 1, section II, implies that the Transmission Planner is involved in performing studies of each new or functionally modified RAS before it is placed in service. We recommend the SDT consider modifying Requirement R4 to clarify the Transmission Planner's role in studying new or functionally modified RAS's on an as needed basis in support of an RAS-entity's need to meet Requirement R1; or add a new requirement for the Transmission Planner that addresses this pre-installation/modification role.

The submitting RAS-entity should also identify the TOP(s) and GOP(s) that have been coordinated with during design of the RAS. We

recommend adding a check box prior to the last one in section II that reads - "Identification of affected TOPs and/or GOPs".

Document Name:

Likes: 0

Dislikes: 0

3. *Choice of Reliability Coordinator (Requirements R1, R2 and R3): Do you agree with the Reliability Coordinator being the functional entity designated to review the RAS? If no, please provide the basis for your disagreement, your choice of functional entity to conduct the reviews, and the rationale for your choice.*

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We would prefer that R2 (review the RAS) apply to the RCs **and** the PCs that could be affected by the RAS. However, if the SDT wants R2 to apply to only one functional entity, then we accept the choice of the RC, but suggest wording like, "each reviewing Reliability Coordinator, in conjunction with applicable Planning Coordinators, shall . . ." to obligate the RC to obtain input from the PCs on the planning horizon impacts of the RAS. RCs should be obligated to obtain input from applicable PCs because they do not have the same knowledge and capabilities of PCs to review the planning horizon impacts of a RAS.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

AEP supports the choice of the RC to perform the review, however we are concerned that the RC may not be far enough removed from the RAS implementation process to be considered completely impartial. In addition, they may not possess the necessary expertise to adequately or thoroughly review the RAS systems in the established time frame (4 months).

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment:

We do not see how the RC alone should be responsible for, or in some cases capable of, fully evaluate the impacts of RASs. We see the need to also involve the Planning Coordinator for assessing the

At present, the regions (primarily the RRO) have task forces or groups made up of both operating and planning people from their members to conduct this evaluation. The regions provide a thorough review of RASs that are proposed by Asset Owners and Transmission Planners. We do not see how either the RC or PC can provide this review in kind; in other words, neither can fill in the blank vacated by the established regional tasks forces or groups. Further, both have compliance responsibilities: an RC must ensure the RAS meets its operating standards requirements (less than a year; daily, weekly) and a PC must ensure the RAS meets its planning standards requirements (greater than a year). We therefore suggest the SDT to consider splitting the evaluating requirements into the long-term planning timeframe (assigned to the PC) and operations planning timeframe (assigned to the RC).

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC would prefer that R2 (review the RAS) apply to the RCs and the PCs that could be affected by the RAS. However, if the SDT prefers R2 to apply to only one functional entity, then ATC accepts the choice be the RC, but recommends wording like, "each reviewing Reliability Coordinator, in conjunction with applicable Planning Coordinators, shall . . ." to obligate the RC to obtain input from the PCs on the planning horizon impacts of the RAS. RCs should be obligated to obtain input from applicable PCs because RCs do not have the same knowledge and capabilities of PCs to review the planning horizon impacts of a RAS.

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Dominion believes that RAS should be reviewed and approved in both the planning and operating horizons by designated entities within whose area(s) the Facility (ies) the RAS is designed to protect reside. Dominion could have supported the recommendation contained in the SCPS Technical designating the RC and the PC, but a review of the most recent NCR Active Entities List indicates no entity is registered as PC. For this reason, we chose to recommend the TP instead of the PC.

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Comments: PacifiCorp does not agree with the RC being the functional entity designated to review the RAS. PacifiCorp believes that RAS review should be undertaken by the planning coordinator, the transmission planner and neighboring transmission planners as they are the parties that possess the requisite knowledge to make a determination as to the appropriateness of the RAS.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:
The RC should also include the Planning Coordinator in the review of the RAS. The RC does not possess adequate capabilities to review the RAS in the Planning Horizon.

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: No

Answer Comment:

ERCOT is concerned that the placement of responsibility to evaluate the impacts of RASs on the RC alone may ignore current, effective processes as well as the current responsibilities of the Planning Coordinator. Thus, ERCOT respectfully suggests that the SDT assess the effectiveness of the current processes and evaluate how such can be incorporated into the proposed Standard. In the alternative, the SDT should evaluate the need to involve the Planning Coordinator in the evaluation of the impacts of RASs. More specifically, at present, the regions (primarily the RRO) have task forces or groups made up of both

operating and planning personnel from their members to conduct evaluations of proposed and modified RASs. Through these task forces or groups, a thorough review of RASs that are proposed by Asset Owners and Transmission Planners is performed. As current processes involve both real-time operations and planning function personnel, it is unlikely that either entity in isolation can fill in the gap that would be created once the established regional task forces or groups vacate their responsibilities under the RRO. Further, both the RC and the PC have existing compliance responsibilities associated with RASs: an RC must ensure the RAS meets its operating standards requirements (less than a year; daily, weekly) and a PC must ensure the RAS meets its planning standards requirements (greater than a year). ERCOT, therefore, suggests that, in the event that current processes cannot be relied upon or incorporated into the proposed standard, the SDT, at a minimum, consider revising the requirements to ensure that any RAS evaluations performed by the RC are done in coordination with the PC such that evaluations that are performed account for both the long-term planning timeframe and operations planning timeframe.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment:

RCs need to be aware of all SPSs in their footprint and would be a logical entity to take over the RRO's responsibility for maintenance of a SPS database. However given the wide-area impacts of RAS, the technical reviews and verification of proper operation should be done in a collaborative forum.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

The type of review envisioned by these standard requirements are significantly and inappropriately broader than the responsibilities and functions of the Reliability Coordinator as laid out in the NERC Functional Model. In addition to conflicting with the functional model, the tools, breadth of study and coordination envisioned by these requirements would require many of the Reliability Coordinators to acquire new tools, study capabilities and resources to achieve the desired reviews. Finally, these new responsibilities for the RCs would become duplicative with the current, and appropriate practice of studying RAS installation and effectiveness in a Regionally coordinated manner across the Planning Horizons. Subject matter expertise for the type of studies needed to evaluate RASs resides in the planning tools and horizon as the issues that require RASs are usually identified in the planning horizon. Regional Entities could perform the "independent" reviews as they have the expertise being used today to perform the reliability assessments of each Region.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

The NERC Functional Model defines the RC as being “The functional entity that maintains the Real-time operating reliability of the Bulk Electric System within a Reliability Coordinator Area.” It is not responsible for the planning or installation of a Protection System. The NERC Functional Model does not support the RC as being the reviewer. The RC does not review nor have the approval authority over any other facility or protection system installation.

A RAS needs to be categorized based on impact to facilitate who approves. A RAS that impacts one Transmission Planner only would be coordinated and approved by that Transmission Planner. A RAS that impacts multiple Transmission Planners would be referred to the Planning Coordinator that the Transmission Planners report to in the functional model. Where multiple Planning Coordinators are impacted, then suggest following the PRC-006 (UFLS) approach and require

coordination of studies.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Since approval of the installation of a RAS involves performing planning studies, we believe the Planning Coordinator should be the entity responsible for reviewing and approving RAS. We certainly agree the RC should be made aware of new RAS but believe they do not have the responsibility to approve the RAS since they are the operating entity. We view this no different than planning a new transmission line and associated Protection Systems which are performed by the Planning Coordinator.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Hydro One Networks Inc.:

1) The majority, if not all, the supporting documentation required in Attachment 1 is based on NERC standards PRC-012-0/1, PRC-013 and PRC-014. These standards were all ONLY applicable to the Regional Reliability Organization (RRO). RRO

organizations already have established programs, standards, directories and procedures in place that request this information from RAS-entities. RRO is the most experienced in performing reviews of the requested documentation and this system has already been in place for years. The RRO should be functional entity designated to review the RAS.

2) The SDT has suggested that the RC has the option of having another entity (e.g. Regional Entity) review the RAS. This should be reflected in R2.

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

Although HQT understands the SDT's motivation for suggesting a NERC functional entity instead of the RRO for the review requirements, HQT disagrees that the RC meets the criteria for a third-party independent review with expertise in planning, operation, protection, etc. No single NERC functional entity is adequate for performing the review by itself. The existing RROs' processes (NPCC, WECC, ...) definitely meet the criteria for a thorough and rigorous review with multiple RCs, TPs, TOPs and much wider and independent field of expertise than a single RC.

Since there seems to be an opening within the standard (R2 rationale) to allow the RC to delegate this task to a third-party (e.g. the RROs current process), HQT would support this approach. However, it seems like going through the RC to obtain a review by the RRO is somewhat "fill in the blank" and administrative with no improvement in reliability.

Because of the importance of reliability for RROs and the existing process for RAS review, the SDT should consider keeping the requirements for submitting a RAS for review (R1) assigned to the RAS entity, and simply state that the submission for review should be made to the RRO. In this case, R1 and R3 would still be applicable to the RAS-entity for the submittal for review by and approval by the RRO prior to placing RAS in service. The current R2 applicable to the RC could be removed.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Texas RE is concerned with how the information to evaluate RAS will be provided to the Transmission Planner or Planning Coordinator.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Hydro One Networks Inc.:

1) The majority, if not all, the supporting documentation required in Attachment 1 is based on NERC standards PRC-012-0/1, PRC-013 and PRC-014. These standards were all ONLY applicable to the Regional Reliability Organization (RRO). RRO

organizations already have established programs, standards, directories and procedures in place that request this information from RAS-entities. RRO is the most experienced in performing reviews of the requested documentation and this system has already been in place for years. The RRO should be functional entity designated to review the RAS.

2) The SDT has suggested that the RC has the option of having another entity (e.g. Regional Entity) review the RAS. This should be reflected in R2.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer:

No

Answer Comment:

Using the criteria outline by the SDT in its recent webinar, in addition to the independence of the reviewer and geographic span, the team also mentioned “expertise in planning, protection, operations, equipment”. The attributes of this expertise to the level expected do not currently exist in most RC organizations. RC’s are primarily operating entities (and even then primarily in real-time) and not experts in planning (beyond the operating time frame), protection or equipment. Transmission Owners, Transmission Operators and Transmission Planners normally have that expertise. The FERC acknowledged the limited RC technical expertise in evaluating details of restoration plans in its Order 749, Paragraph 38 (“...basis on which a reliability coordinator rejects a restoration plan will necessarily be based on generic engineering criteria...”). The review of a RAS by an RC should not be held to a higher expectation due to similar limited expertise with the equipment and systems involved in a RAS.

The “flexibility” for the RC granted in the requirement to designate a third party would seem to immediately invalidate the original assumptions that the RC has the compelling capability to adequately perform the review while meeting the SDT’s characteristics of the reviewing entity. To allow this, while still requiring the RC to be responsible for the review, seems like an improper administrative burden and a potential compliance risk that the RC may assume because it had to find an entity more qualified than itself to perform the review. If an RC is not qualified to review all of the items in Attachment 2 then how can it be held responsible for the results of the review?

Regarding the designation of a third party reviewer, clarification needs to be made regarding what it means to “retain the responsibility for compliance.” Does this simply mean that the review takes place or that there is some implied resulting responsibility for the correct design and

implementation that the RC is now accountable for.

Finally, also regarding the designation of a third party reviewer, is the term “third party” meant to be any entity not involved in the planning or implementation of the RAS?

The alternative to using the RC? Although there appears to be a movement to remove the RRO as a responsible entity from all standards, those organizations through their membership expertise and committee structures more closely match the characteristics stated by the SDT – expertise in planning/protection/operations/equipment, independence by virtue of the diversity of its members, wide area perspective, and continuity. If for some reason the SDT, believes that the RRO still should not be involved then an alternative could be the Planning Coordinator function which should have similar expertise to the Transmission Planners that are to specify/design a RAS per the functional model yet would have some independence which the SDT is looking for.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We do not see how the RC alone should be responsible for, or in some cases capable of, fully evaluating the impacts of RASs. We see the need to also involve the Planning Coordinator for assessing the RAS. At present, the regions (primarily the RRO) have task forces or groups made up of both operating and planning people from their members to conduct this evaluation. The regions provide a thorough review of RASs that are proposed by Asset Owners and Transmission Planners. These processes should be retained and the proposed requirements should not preclude these to continue.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

4. Checklist in Attachment 2 (Requirement R2): Do you agree that the checklist in Attachment 2 provides a comprehensive guide for the Reliability Coordinator to facilitate a thorough RAS review? If no, please identify what other reliability-related considerations should be included in Attachment 2 and the rationale for your choice.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

The paragraph, "RAS retirement reviews may use an abbreviated format that concentrates on the Planning justifications describing why the RAS is no longer needed. Implementation issues will seldom require removal review" is confusing. Consider the following wording, "may be shorter and simpler. Few, if any, of the Design and Implementation checklist items will apply to a RAS retirement review. A retirement review should primarily assure that there is adequate

Planning justifications regarding why the RAS is no longer needed.”

We suggest that R4 return to the 5-year requirement versus the 60 full calendar month. There is no additional reliability benefit to specifying 60 months versus once at least every 5 calendar years. However, there is a scheduling benefit to once at least every 5 calendar years. The 5 calendar year option allow for flexibility with no reduction in reliability. It is reasonable for any requirement spanning two or more years to use “annual calendar years”. For requirements that are less than two years, calendar month(s) is more appropriate.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

We generally agree with the proposed guideline presented in Attachment 2, but have difficulty understanding the first bullet which reads: "frequency-related instability" In fact, if we apply our interpretation correctly that it means instability caused by frequency excursion or collapse or generator instability, then this term will eliminate the possibility of instability caused by voltage collapse. We suggest to replace this term with "system instability" which should cover all instability cases.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: Yes

Answer Comment:

However, in Attachment 2, the paragraph, "RAS retirement reviews may use an abbreviated format that concentrates on the Planning justifications describing why the RAS is no longer needed. Implementation issues will seldom require removal review" is confusing. For clarity, ATC recommends rewording, such as "may be shorter and simpler. Few, if any, of the Design and Implementation checklist items will apply to a RAS retirement review. A retirement review should primarily assure that there is adequate Planning justifications regarding why the RAS is no longer needed."

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Dominion believes "frequency-related instability" is not a universally defined/accepted term. Instead, consider referencing specifically PRC-006 attachment 1 or 1A.

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0.”* Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment:

Standards are meant to be clear and defined. However, this checklist introduces ambiguity. There are implications of redundancy, but more clarity is needed. Further, the level of review required by the RC is too subjective. What distinguishes "significant" from "lesser impact?"

The second-to-last bullet in the Design section should be clarified because it's difficult to understand.

The last bullet in the Design section should be deleted because future system planning is the TP/PC function and not an RC function.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0.”* Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Questions 5 and 6 pertain to these topics.

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0.”* Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Questions 5 and 6 pertain to these topics.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

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

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

While ERCOT is not opposed to a guideline regarding the performance of RAS evaluations, Attachment 2 is overly prescriptive and does not allow for RCs to utilize their operational experience and engineering judgment. ERCOT recommends that the introductory paragraph to Attachment 2 be revised to provide greater flexibility regarding RAS evaluations. The following revisions are suggested:

The following checklist provides reliability related considerations for the Reliability Coordinator to consider for inclusion in its evaluation for each new or functionally modified² RAS. The RC should utilize the checklist to determine those considerations that are applicable to the RAS evaluation being performed; however, RAS evaluations are not limited to the checklist items and the RC may request additional information on any reliability issue related to the RAS

ERCOT also supports the SRC comments regarding Requirement R2.

Document Name:

Likes: 0

Dislikes: 0

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:
See Duke Energy's attachment for suggested revisions to Attachment 2.

Document Name: PRC-012-2_AHM_Attachment 2 RC RAS Review
Checklist_WTL_JSW_edits_18MAY2015.docx

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 1 -

Selected Answer: Yes

Answer Comment:

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0.”* Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Questions 5 and 6 pertain to these topics.

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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment:

We agree that the list is a comprehensive guide, but do not believe this should be done solely by the RC.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

See comment to number 3 that disagrees with the RC being the appropriate reviewer.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

In the Determination of Review Level, the three conditions listed can occur at any time for the failure of a RAS to operate or operate inadvertently, thereby mandating that the entire checklist be followed.

Attachment 2 states that the level of review may be limited if the system response for failure of the RAS to operate or inadvertent operation of the RAS does not result in certain significant conditions.

However, Attachment 2 does not explicitly describe what portions of Attachment 2 would be considered a limited review. It only states that if certain operating conditions are possible as the result of the failure to

operate or inadvertent operation then the entire Attachment 2 checklist should be followed.

It must be recognized that the conditions in Attachment 2 are too broad for determining whether a full-scale or limited review is required. Specifically, the standard should quantify the load in the condition “unplanned tripping of load or generation.” This condition captures tripping of ultimately even very small generators and loads, i.e. the anticipated impact does not correlate with the required depth of the review. It is suggested to consider modification of this particular condition.

Elimination of Attachment 2 should be considered. The Planning Entity and Transmission Owner has the expertise per the Functional Model to develop a RAS.

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analysis) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: No

Answer Comment:

Tri-State recommends changing the "Determination of Review Level" section to read:

"The RC is allowed some latitude in the depth of their review based on the individual Remedial Action Scheme's complexity and implications. Nevertheless, the RC shall follow the entire checklist should the RAS:

- *Impact the ability of the BES to operate within established IROLs*
- *Contribute to or have the potential to cause wide-area:*
 - *cascading of transmission facilities;*
 - *uncontrolled separation;*
 - *voltage instability; or*
 - *frequency instability. "*

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We agree Attachment 2 represents a comprehensive list of information for a higher level reliability authority to review. However, we believe the PC should be performing the review.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

We request to add “pursuant to Requirement R2” after ‘review’ in the opening paragraph so that it reads “The following checklist identifies important reliability related considerations for the Reliability Coordinator to review pursuant to Requirement R2 and verify for each new or functionally modified RAS.” This matches the Attachment 1 wording.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Québec TransEnergie - 1 - NPCC

Selected Answer: No

Answer Comment:

Attachment 2 seems redundant with Attachment 1. The SDT should consider merging them together and referring to a single attachment for the key items to submit for review and review checklist of those items.

The section "Determination of Review Level" needs some clarification. What is a "limited review"? What items from the checklist can be skipped in this case? At a minimum, some guidelines should be added.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE is concerned that UVLS will not be considered. Project 2008-02.2 UVLS indicates in the technical guide that certain UVLS will not be in a UVLS Program but would be considered a RAS but it does not appear that UVLS is considered part of RAS. The entire checklist should be used for voltage-related instability.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the*

contingency for which it was designed, and not exceed TPL-003-0.”
Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We generally agree with the proposed guideline presented in Attachment 2, but have difficulty understanding the first bullet which reads: “frequency-related instability” In fact, if we apply our interpretation correctly that it means instability caused by frequency excursion or collapse or generator instability, then this term will eliminate the possibility of instability caused by voltage collapse. We suggest to replace this term with “system instability” which should cover all instability cases.

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0.”* Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

BPA requests clarification of Attachment 2 Reliability Coordinator RAS Review Checklist, Implementation, bullet six: RAS automatic arming, if applicable, has the same degree of redundancy as the RAS. What is meant by "the same degree of redundancy"?

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

By definition though, any RAS that is designed to trip load or generation would require a full review since an "inadvertant operation of the RAS" **WOULD** result in unplanned tripping of load or generation. What then would constitute a scheme that could be reviewed to a lesser degree?

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

5. Choice of Transmission Planner (Requirement R4): The Transmission Planner is required to perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS. Do you agree with the Transmission Planner being the functional

entity designated to evaluate the RAS? If no, please provide the basis for your disagreement, your choice of functional entity to conduct the evaluations, and the rationale for your choice.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We suggest that R4 (evaluate the RAS) require the TP to obtain input from affected TOPs and RAS-owners as part of the RAS evaluation

with wording like, "Each Transmission Planner, in conjunction with affected Transmission Operators and the RAS-owner, shall . . ." Affected TOPs have knowledge and capabilities to assess the operating horizon impacts of a RAS that TPs do not have. In the same vein, RAS-owners have more knowledge of the design and purpose of the RAS that TPs.

We suggest changing the word "applicable" to "affected" in the comment above to clarify only "affected" TOP's and RAS owners need to submit input or participate in the review.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment:

At present, many Transmission Owners are also registered as the Transmission Planners (for the assets that the TOs own). A proper evaluation of the RAS should be performed by an entity that is either not also the TP or has a wider perspective than the TP. We believe a PC is more suitable to perform this task than the TP, and therefore suggest replacing the TP with the PC.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC recommends that R4 (evaluate the RAS) require the TP to obtain input from affected TOPs and RAS-owners as part of the RAS evaluation and reword as follows: "Each Transmission Planner, in conjunction with affected Transmission Operators and the RAS-owner, shall . . . ". Affected TOPs have knowledge and capabilities to assess the operating horizon impacts of a RAS that TPs do not have. In the same vein, RAS-owners have more knowledge of the design and purpose of the RAS that TPs.

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Dominion believes that RAS should be reviewed and approved by both, the RC and the TP within whose area(s) the Facility (ies) the RAS is designed to protect reside.

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment:

Why does the RC perform the initial review and then the TP performs subsequent reviews? This does not follow the philosophy of an independent reviewer.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

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

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: No

Answer Comment:

At present, many Transmission Owners are also registered as the Transmission Planners (for the assets that the TOs own). Although it is clear that such an entity would have greater expertise regarding the function of the RAS, such evaluations should also be coordinated with and reviewed by the applicable PC. Such coordination and review would allow PCs to ensure that the assessment of the impact of RASs accounts for the broader system perspective and characteristics. ERCOT recommends that the Requirement R4 be modified to ensure that assessments performed by the Transmission Planner are coordinated with or reviewed by the applicable PC.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Yes – however the Planning Authority should be involved in the evaluation as they are better positioned to study, identify and coordinate potential impacts on areas where multiple TPs are involved or potentially impacted.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

In Requirement R4, the draft standard establishes Transmission Planners as being responsible for performing evaluations of each RAS in its planning area. However, a mechanism/requirement for providing the TP with the required information from the Reliability Coordinator is not defined. Suggest rewording R4 to:

R4. Each Transmission Planner shall perform an evaluation of information provided by the Reliability Coordinator for each RAS within its planning area at...

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We disagree with the TP being the entity responsible to evaluate the RAS. Final review and approval should be the responsibility of the

highest level planning authority which is the Planning Coordinator. This is consistent with the functional model. In those areas, where there is not a Planning Coordinator, the Transmission Planner could be substituted and actually represents the reality that the Transmission Planner is really serving as the Planning Coordinator anyway.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment: Texas RE recommends adding clarity for submitting data to the Transmission Planner, as there is no specific requirement to do so. R11 states that if an entity receives a request with a “reliability related need” the RAS-entity shall provide the information. Texas RE recommends adding clarity to “reliability related need”.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer: No

Answer Comment:

For the ERCOT Interconnection, CenterPoint Energy believes the PC should be the designated functional entity to evaluate the RAS as

described in Requirement R4 in the preliminary draft of PRC-012-2. ERCOT ISO presently performs this function and is best positioned to see the wide-area view in the ERCOT planning area. The established regional rules detail ERCOT ISO's evaluation which is performed at least every 60 months, as Requirement R4 is currently drafted. Section 11.2 'Special Protection System' of the ERCOT Nodal Operating Guides is attached for reference.

CenterPoint Energy suggests the following options to address evaluation of the RAS within the ERCOT Interconnection:

1. Change Transmission Planner to Planning Coordinator in Requirement R4. (preferred option)
2. Add "Planning Coordinator – ERCOT Interconnection" in the Applicability section and revise the beginning of Requirement R4 to state "Each Transmission Planner or Planning Coordinator shall perform an evaluation...."
3. Add a regional variance in PRC-012-2 for the ERCOT Interconnection.

Document Name: Section 11.2_Special Protection System_ERCOT Nodal Operating Guides_20140401.docx

Likes: 0

Dislikes: 0

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

At present, many Transmission Owners are also registered as the Transmission Planners (for the assets that the TOs own). A proper evaluation of the RAS should be performed by an entity that is either not also the TP or has a wider perspective than the TP. We believe a PC is more suitable to perform this task than the TP, and therefore suggest replacing the TP with the PC.

Note - These SRC comments represent a consensus of the ISOs/RTOs with the exception of ERCOT.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Is the expectation that the Transmission Planner fill out (update) Attachment 1 as part of it's review? As Attachement 1 is currently written, it appears that Attachment 1 is only filled out for new or functionally modified schemes. I can see that new or modified schemes are designed to avoid the single component failure, however "grandfathered" schemes that are still needed and still effective as is could be missed.

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

6. No RAS Classification (Requirement R4): *The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: "Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0." Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1. Do you agree that the language of Requirement R4, its Parts, and Attachment 1 accomplish the objectives of RAS "classification" without having a formal RAS classification system in the standard? If no, please provide the basis for your disagreement and describe an alternate proposal.*

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We agree that the parts of R4 include reasonable aspects of the RAS to evaluate, but the RAS "classification" should be based on the RAS definition. For R4.3, we propose replacing "satisfies the requirements of Category P7 in Table 1 of NERC Reliability Standard TPL-001-4, or its successor" with "is allowed to result in an interruption of firm Transmission Service or Non-Consequential Load Loss". This wording is simpler and more straightforward and would not be subject to change if a successor of TPL-001-4 does not a Category P7, changes the Category P7 contingency, or changes the associated performance requirements.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment:

In the absence of the classification and minimum design requirements there will be risks for some RAS to be under or overdesigned subject to personal interpretation of the standard.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC agrees that the parts of R4 includes reasonable aspects of the RAS to evaluate, but the RAS "classification" should ultimately be based on the RAS definition. For R4.3, ATC proposes to replace "satisfies the requirements of Category P7 in Table 1 of NERC Reliability Standard TPL-001-4, or its successor" with rewording such as, "is allowed to result in an interruption of firm Transmission Service

or Non-Consequential Load Loss". This wording is simpler and more straightforward and would not be subject to change if a successor of TPL-001-4 does not include a Category P7, changes the Category P7 contingency, or changes the associated performance requirements.

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes:

0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer:

No

Answer Comment:

Requirement R4 mandates the Transmission Planner perform a technical evaluation (planning analyses) of each RAS at least once every 60 full calendar months to verify the continued effectiveness and coordination of the RAS, as well as the BES performance following an inadvertent operation of the RAS.

The drafting team considered the RAS classification systems used by several Regions to be rooted in PRC-012, Requirement R1, R1.4. which reads: *“Requirements to demonstrate that the inadvertent operation of a RAS shall meet the same performance requirement (TPL-001-0, TPL-002-0, and TPL-003-0) as that required of the contingency for which it was designed, and not exceed TPL-003-0.”* Although, the drafting team is not proposing to use formal RAS classifications, the intent of PRC-012, Requirement R1, R1.4. is retained in Requirement 4 and Attachment 1.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment:

The Standard should classify RAS because the current language will lead to subjectivity, ambiguity, and disagreements between RCs and RAS-entities. This will lead to inconsistent application for appropriate levels of security, dependability, and redundancy and the associated level of review required. If a RAS is not classified, these issues (i.e. in the sentence above) become too subjective. It is current practice in the industry to have various classifications for this very purpose. Dependability and security are not defined terms in the NERC glossary.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment: Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies. Question 7 pertains to Requirement R6.

Document Name:

Likes: 0

Dislikes:

0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer:

No

Answer Comment:

There does not seem to be any sort of differentiation for the design requirements of various RAS. It is a one-size-fits-all approach; therefore there really are no different categories.

While not specifically reference, the third checkbox in Attachment 2, Implementation, will require every RAS to be fully redundant. It says that with a single component failure, the BES must meet the same requirements that drove the need for the RAS. Even if failure of the RAS has minimal impact, failure of the RAS would cause the BES not to meet performance requirements or the RAS wouldn't have been needed.

Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies. Question 7 pertains to Requirement R6.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment: SPP has a small number of RAS and doesn't have much input on the concept of RAS "classification".

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment: Is the intent of this standard to create projects or Contingency plans to mitigate RAS misoperations?

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

R4.3 makes reference to performance requirements of Category P7 in Table 1 of NERC Reliability Standard TPL-001-4, or its successor. Can we infer that those performance requirements are the same as in Category P2-4 and Category P4-6?. This requirement could be quite difficult to test depending on the type of RAS.

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 1 -

Selected Answer:

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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Without defined "classifications", all RAS require the same attention by the standard's requirements.

It seems the 'Determination of Review Level' in Attachment 2 also accomplishes the objectives of RAS classifications by determining the level of system response (i.e. determining Significant vs. Limited).

However, the language of Requirement R4 and Attachment 1 (and Attachment 2 as indicated in the comment preceding) accomplish the

objectives of RAS classification without having a formal RAS classification system.

This is particularly important to regions that already employ a classification system, thereby avoiding multiple and overlapping classifications.

A classification system is needed to easily communicate the risk and impact of a RAS. Classification, if included in the database, would facilitate an understanding of the risk posed by the various RAS schemes deployed in the BES. Without a classification system for RAS, all RASs are treated equally; this gives the RC (or whomever is eventually assigned responsibility for evaluating them) too much latitude in interpreting an adequate level of redundancy, which would almost invariably lead to inappropriate design.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: No

Answer Comment:

Tri-State has three concerns here.

First, “planning area” is not defined. We recommend changing the first sentence of R4 to:

“Each Transmission Planner shall perform an evaluation of each RAS for which they have planning responsibilities at least once every...”

Second, it is not clear what is meant by “inadvertent operation of the RAS”. RASs commonly operate more than one facility (see WECC RAS-1). Does this mean the entire RAS or each individual component?

Third, Tri-State also do not agree with the criteria that inadvertent operation of the RAS must satisfy the same performance requirements as those required for the contingency for which it was designed. There are existing RASs that could not meet this requirement.

For example, there are Generator Owners that elect to install RASs that trip (verses re-dispatch) their generator(s) to prevent overloading transmission lines following a single element outage in lieu of upgrading the transmission network. TPL-001-4 does not allow interruption of Firm Transmission Service for P1 contingencies. Since this type of RAS is to mitigate a P1 caused overload, inadvertent operation of the RAS cannot interrupt Firm Transmission Service either. This would not meet the criteria that the RAS must satisfy the same performance requirements as those required for the contingency for which it was designed.

To address the second and third concerns above, Tri-State recommends simplifying R4.3 to:

“The inadvertent operation of any portion of the RAS does not cause a violation of an established Operation’s or Planning horizon System Operating Limit.”

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We do not believe it is necessary to classify RAS. RAS is a defined term that should clearly identify the vast majority of RAS. If a regional entity, Planning Coordinator, or Reliability Coordinator wants to continue classifying and tracking RAS, there is nothing in the standard that prohibits this even though it is not necessary for reliability.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1) Hydro One Networks Inc.:Regions or individual RCs could have their internal/regional Typing, with different design requirements for different Types.

2) Hydro One Networks Inc. agrees with NPCC on the following: *Without a classification system for RAS, all RASs are treated equally; this gives the RC (or whoever is responsible for evaluating) too much latitude in interpreting an adequate level of redundancy, which could easily lead to an inappropriate RAS design.*

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer:

No

Answer Comment:

HQT proposes that requirements for redundancy, testing and maintenance be different for “limited-impact” RAS versus “high impact” RAS. HQT believes that the standard shall retain the following recommendation from the SPCS report: ...it may be appropriate to establish less stringent requirements pertaining to monitoring or single component failure of SPS that present a lower reliability risk. This recommendation is aligned with industry practice. Some RAS are installed for NERC standard compliance, but their impact is very limited to a contained area. Other RAS are critical so wide-area problems for which a much higher reliability of the RAS needs to be achieved through more rigorous design (redundancy and security), maintenance and testing.

HQT agrees with the removal of a formal classification from a NERC standpoint, allowing the regions flexibility to have their own classification. However, regarding the performance for inadvertent operation, requirement 4.3 and Attachment 1 do not provide any consideration of security in the implementation.

If redundancy is an appropriate measure to demonstrate that failure of a single component does not prevent from meeting the TPL standards requirements through the design of a RAS, then it should be possible to demonstrate that inadvertent operation of a component of a RAS does not prevent from meeting P7 from TPL 001-4 through the design review. In that sense, the R3 rationale states that “The review by the RC is intended to identify reliability issues that must be resolved before the RAS can be put in service. The reliability issues could involve dependability, security, or both. A more detailed explanation of dependability and security is included in the Supplemental Materials section of the standard.” No further reference to security is made anywhere in the standard. As for the single component failure requirement, the inadvertent operation requirement should be linked to

the design of the RAS.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies. Question 7 pertains to Requirement R6.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Texas RE recommends changing the phrase “avoids adverse interactions” to something less vague.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1) Hydro One Networks Inc.:Regions or individual RCs could have their internal/regional Typing, with different design requirements for different Types.

2) Hydro One Networks Inc. agrees with NPCC on the following:
Without a classification system for RAS, all RASs are treated equally; this gives the RC (or whoever is responsible for evaluating) too much latitude in interpreting an adequate level of redundancy, which could easily lead to an inappropriate RAS design.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment: Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies. Question 7 pertains to Requirement R6.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies. Question 7 pertains to Requirement R6.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: No

Answer Comment:

Attachment 2 generally accomplishes the objective of RAS "classification." However, confirmation by the drafting team is requested that "unplanned tripping of load or generation" refers to tripping of load or generation beyond that identified for another

contingency (e.g., breaker failure or bus Fault) as opposed to simply unintentional or inadvertant tripping.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

7. RAS Operational Analyses (Requirement R6): Requirement R6 mandates each RAS-owner analyze each RAS operation or failure of a RAS to operate to identify performance deficiencies Do you agree that the application of Requirement R6 and its Parts would identify performance deficiencies in RAS? If no, please provide the basis for your disagreement and an alternate proposal.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer: No

Answer Comment: See response to Question #8.

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We agree that the application of R6 would identify deficiencies, but there is a disconnect between the Rationale Box and R6. The Rationale Box says RAS operations and Mis-operations "should" be analyzed while R6 states they "shall" be analyzed. The Rationale Box should be revised to state that RAS Operations and Mis-operations **must** be analyzed.

The analysis of the RAS and identification performance deficiencies would need to include the contribution of RAS-owners, applicable TOPs and applicable TPs to be complete and adequate. In addition, the contribution of any or all of these entities may be needed to identify suitable and valid corrective action options. The RAS-owner should be the entity to choose the option to submit to its reviewing RC (R7).

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

AEP agrees with the application of R6 as the time frame for analysis, which aligns with R1 in PRC-004-4.

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment:

We agree with R6 to require the RAS-Owner to conduct the analysis but suggest that the RC should be added to this requirement (or in a new requirement) to review and concur with the analysis results (or request modifications or additional information).

Document Name:

Likes: 0

Dislikes: 0

Andrew Puztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC recommends that R6 (analyze RAS operations or misoperations) should involve the affected TP, TOPs and RAS-owners. If the RAS-owner is selected to be the lead for these analyses, then consider wording like, "Each RAS-owner, in conjunction with affected Transmission Planners and Transmission Operators shall analyze . . ." Affected TPs and TOPs have knowledge and capabilities to assess the system impacts of a RAS in the planning horizon and operating horizon that RAS-owners do not have. The analysis of the RAS and identification performance deficiencies would need to include the contribution of RAS-owners, applicable TOPs and applicable TPs to be complete and adequate.

ATC recommends a "90-calendar day" time frame in R6, rather than "120-calendar day" timeframe or state as "a timeframe mutually agreed upon with its RC" is incorporated into the requirement.

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Requirements R5 and R7 pertain to the submittal of Corrective Action Plans (CAPs) to the Reliability Coordinator (RC) for review, and Requirement R8 mandates the implementation of each CAP. Question 8 addresses these requirements.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment:

If it's a large RAS issue, the timeframe to evaluate should be shorter. In addition, the timeframe to mitigate the issues should be more clearly defined.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirements R5 and R7 pertain to the submittal of Corrective Action Plans (CAPs) to the Reliability Coordinator (RC) for review, and

Requirement R8 mandates the implementation of each CAP. Question 8 addresses these requirements.

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: No

Answer Comment:

Partial operation of an RAS is not listed and should be analyzed. In addition, an RC needs to ability to require the RAS-entity to investigate real time performance issues, such as an RAS that is unavailable on a repetitive basis. In addition, there should be a requirement that that status of the RAS is monitored. Language should be changed as follows:

R6. Within 120-calendar days of each RAS full *or partial operation* or each failure of a RAS to operate or an an RAS issue is raised by the RC, each RAS *entity* shall analyze the RAS for performance

deficiencies. The analysis shall determine whether the: *[Violation Risk Factor:] [Time Horizon:]*

6.1. Power System conditions appropriately triggered the RAS.

6.2. RAS responded as designed.

6.3. RAS was effective in mitigating power System issues it was designed to address.

6.4. RAS operation resulted in any unintended or adverse power System response.

6.5 *RAS Owner(s) shall monitor RAS status.*

Requirements R5 and R7 pertain to the submittal of Corrective Action Plans (CAPs) to the Reliability Coordinator (RC) for review, and Requirement R8 mandates the implementation of each CAP. Question 8 addresses these requirements.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment:

Please elaborate on the definition of an operation used in this context. Are we discussing the relay just arming or are we discussing the whole sequence of operations involved in the RAS?

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:
ERCOT agrees that the RAS entity should evaluate RASs under the circumstances identified in Requirements R5 and R6, but would suggest that such entities be required to provide the results of such assessments to their Reliability Coordinator and Planning Coordinator.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 1 -

Selected Answer: No

Answer Comment:

RAS-entity should be responsible for R6 instead of RAS-owner. The RAS-entity, being designated to represent all RAS-owners, is in the best position to evaluate the operation of a RAS.

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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Similar to PRC-004-3 Protection System Misoperation Identification and Correction, when a RAS operates or fails to operate it should be reviewed. It is too simplistic to say each RAS-owner will analyze a RAS operation, especially if the RAS implicates components owned by different entities, like a TO, DP, GO, and where the appropriate entity to review system response is the TP and PC. We also suggest moving Parts 6.1 to 6.4 to either the Rationale for Requirement R6, or the Technical Guidelines and out of the requirement.

Agree with R6 as far as it goes. However, the RAS owner may not be in the position to evaluate Parts 6.3 and 6.4. The applicability of these sub-Parts should include the RC.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

While we agree that R6 is necessary and its application will certainly identify performance deficiencies, we are concerned how an applicable entity will provide compliance with “each failure of a RAS to operate.” We urge the drafting team to avoid creating another “prove the negative” requirement. Will the applicable entity have to retain 6-second scan data for every hour of every year to demonstrate that no conditions ever existed that would have triggered a RAS? This is not reasonable and should be modified.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: No

Answer Comment:

It is more efficient for the RAS-entity to initially evaluate each RAS operation, and then involve the RAS-owner(s) as appropriate. We request a change to “Within 120-calendar days of each RAS operation or each failure of a RAS to operate, the RAS-entity shall analyze the RAS for performance deficiencies. Each RAS-owner shall cooperate in this RAS-entity led analysis, as needed. ...”

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1)Hydro One Networks Inc. believes that the term “performance deficiencies” and requirements R6.1-R6.4 seem to be more related to design of the RAS. It is not clear if a misoperation of an associated relay, DC system , AC circuitry, etc., are included in this requirement. Note that the “new” definition of RAS states that it is a ‘scheme’ and not a ‘protective system’ as is originally defined in SPS which would include the relays, DC system, AC sensing devices, etc.

2) Hydro One Networks Inc. agrees with NPCC on the following: *We agree with R6 and its Parts; however, the RAS owner will not be in the position to evaluate R6.3 and R6.4. The*

applicability of these sub requirements should include the RC.

3) Hydro One Networks. Inc. further agrees with NPCC on the following: *A requirement cannot be assigned to more than one functional entity. Thus, this requirement should be structured similar to PRC-004-3, where individual requirement for each step of the sequence involved in evaluating operation and misoperation.*

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer: No

Answer Comment:

HQT agrees with the intent of R6. However, it seems like this requirement is trying to cover two very different aspects related to RAS operation: RAS equipment and system performance. The burden of the whole evaluation is assigned to the RAS-owner, which is probably best-suited to perform the evaluation of 6.2 RAS responded as designed, but not 6.3 and 6.4 which are related to system response analysis. This would probably be better addressed another entity (RC? TOP?). HQT recommends splitting R6 in two distinct aspects: equipment performance and System performance, and to assign the appropriate entity for both.

R6.1 is redundant with R6.2. If the RAS responded as designed, then Power System conditions appropriately triggered the RAS.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE is concerned that with a 60 month evaluation timeframe specified in R4, there could be changes that affect the RAS that are not evaluated until the 60 months or an operation of the RAS. A new transmission line could be built where the RAS was not considered and the RAS operates unnecessarily because of the new line.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1)Hydro One Networks Inc. believes that the term “performance deficiencies” and requirements R6.1-R6.4 seem to be more related to design of the RAS. It is not clear if a misoperation of an associated relay, DC system , AC circuitry, etc., are included in this requirement. Note that the “new” definition of RAS states that it is a ‘scheme’ and not a ‘protective system’ as is originally defined in SPS which would include the relays, DC system, AC sensing devices, etc.

2) Hydro One Networks Inc. agrees with NPCC on the following: *We agree with R6 and its Parts; however, the RAS owner will not be in the position to evaluate R6.3 and R6.4. The*

applicability of these sub requirements should include the RC.

3) Hydro One Networks. Inc. further agrees with NPCC on the following: *A requirement cannot be assigned to more than one functional entity. Thus, this requirement should be structured similar to PRC-004-3, where individual requirement for each step of the sequence involved in evaluating operation and misoperation.*

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirements R5 and R7 pertain to the submittal of Corrective Action Plans (CAPs) to the Reliability Coordinator (RC) for review, and Requirement R8 mandates the implementation of each CAP. Question 8 addresses these requirements.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:
Requirements R5 and R7 pertain to the submittal of Corrective Action Plans (CAPs) to the Reliability Coordinator (RC) for review, and Requirement R8 mandates the implementation of each CAP. Question 8 addresses these requirements.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: No

Answer Comment:

R6 will address after-the-fact performance deficiencies.

R4 will determine if a scheme is still needed and effective. For new schemes, they will be designed correctly, but if a "grandfathered" scheme is still needed and effective per the TP studies, a flawed design in implementing the scheme could be easily overlooked since the design aspect of a scheme may not be part of a TP review.

Making updating Attachment 1 part of R4 a requirement could address this.

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

8. Corrective Action Plans (Requirements R5, R7, and R8): Do you agree that the application of Requirements R5, R7, and R8 would address the reliability objectives associated with CAPs? If no, please provide the basis for your disagreement and describe an alternate proposal.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer: No

Answer Comment:

The inclusion of both RAS-entities and RAS-owners in this draft standard is problematic. We suggest that the standard is simpler and more effective if the Applicability is limited to a single equipment-owning entity. This single RAS entity should be the equipment-owning entity having the wide-area perspective of the BES, which is normally the Transmission Owner. R5, R6, R7, and R8 will likely be ineffective and unnecessarily complicated when there are multiple RAS-owners. The RAS-entity described above should be assigned the responsibility to submit an overarching Corrective Action Plan (R5 and R7), to analyze RAS operations (R6), and to implement the CAP (R8) based on its discussion and cooperation with the multiple RAS-owners.

Document Name:

Likes: 0

Dislikes: 0

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

While we agree that application of the requirements would address reliability objectives, we have a few concerns:

- Both R5 and R7 relate to RAS's that are in service, and in both cases deficiencies have been found. We believe 6 months is too long to submit a CAP to the RC. There has already been a significant amount of time since the RAS was found deficient and 3 months should be adequate time to develop a CAP. This is a critical function and there is risk to having it operational when it is known to have deficiencies.

- Nowhere does the RC need to review the CAP in a specified timeframe and agree that it solves the problem(s) identified, and issue a formal statement to that effect. There should be requirement for that step. A RAS owner would be unwilling to implement a CAP unless the RC agreed that it is adequate.

- Requirement 7 should be revised to say: “. . .each RAS-Owner shall submit a Corrective Action Plan for review and approval by its reviewing Reliability Coordinator(s).”

To assure that the CAPs submitted per R5 and R7 are suitable and valid CAPs to address the associated reliability objectives, the CAP must be chosen from CAP options that any or all of the applicable RAS-owners, applicable TOPs, and applicable TPs have determined are suitable and valid CAP options. The identification of suitable and valid CAP options should be included in R4 and R6.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

We generally agree with the application of R5, R7 and R8 would address the reliability objectives associated with CAPs, but R8 should be revised to provide a time frame for completing the implementation as otherwise, a CAP's implementation can be deferred indefinitely.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC proposes that R5 require TPs to identify suitable and valid CAP options to address any identified deficiencies in R4 and provide these options to the applicable RAS-owners. ATC also proposes adding a requirement (or expand R5) to require RAS-owners to choose one of the viable options and submit their choice to their reviewing RC for approval. Also, ATC proposes adding a new requirement (or expanding R5) to require each RC to accept or reject any CAPs that are submitted

by RAS-owners.

ATC suggests a “90-calendar days” time frame, rather than “six full calendar months” timeframe or rewording such as “or a timeframe mutually agreed upon with its RC” is incorporated into R5. A quicker resolution of any deficiency would be better and only allow more time when it is really needed.

ATC suggests that R7 (and any new requirements) be revised similar to the proposals related to R5. Require TPs be required to identify suitable and valid CAP options to address any identified deficiencies in R6 and provide these options to the applicable RAS-owners. Require RAS-owners to choose one of the viable options and submit their choice to their reviewing RC for approval. Require each RC to accept or reject any CAPs that are submitted by RAS-owners.

Document Name:

Likes: 0

Dislikes: 0

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Requirement R9 mandates each RAS-owner periodically perform a functional test of each RAS to verify the overall RAS performance and the proper operation of non-Protection System components. Question 9 pertains to Requirement R9.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment: R8 should include language that the CAPs must be approved by the RC and not merely submitted.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirement R9 mandates each RAS-owner periodically perform a functional test of each RAS to verify the overall RAS performance and the proper operation of non-Protection System components. Question 9 pertains to Requirement R9.

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: No

Answer Comment:

We generally agree with the application to address reliability but an R5 and R7 CAP submittal should be made by the RAS entity, it should not be submitted to the RC by multiple RAS Owners.

R5. Within six full calendar months of being notified of a deficiency in its RAS based on the evaluation performed pursuant to Requirement R4, **the RAS-entity** shall submit a Corrective Action Plan to its reviewing Reliability Coordinator(s). *[Violation Risk Factor:] [Time Horizon:]*

R7. Within six full calendar months of identifying a performance deficiency in its RAS based on the analysis performed pursuant to Requirement R6, **the RAS-entity** shall submit a Corrective Action Plan to its reviewing Reliability Coordinator(s). *[Violation Risk Factor:] [Time Horizon:]*

Requirement R8 should include a timeframe for implementing the CAP.

R8. For each CAP submitted pursuant to Requirement R5 and Requirement R7, each RAS owner shall implement the CAP **within 90 days unless an alternative alternate schedule is approved by the RC.** *[Violation Risk Factor:] [Time Horizon:]*

Requirement R9 mandates each RAS-owner periodically perform a functional test of each RAS to verify the overall RAS performance and the proper operation of non-Protection System components. Question 9 pertains to Requirement R9.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment:

However, for consistency, I believe that the 120 days in requirement R6 should be changed to 4 months instead of 120 calendar days to be consistent with the other dates in the standard. Although it is much easier to keep track of the days.

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment: ERCOT supports the comments of the SRC for these requirements.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 1 -

Selected Answer: No

Answer Comment:

R5 and R7 should specify a CAP is created only if deficiency is on the RAS-owners part of the RAS. As written, all RAS-owners would be responsible for submitting CAPs if a single deficiency was identified on just one part of the RAS. As written, a RAS-owner would be responsible for writing a CAP (R5 or R7) and implementing the CAP (R8) for something they may have no control over, if the deficiency is on another RAS-owners part of the RAS.

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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment:

While we agree with the development of the CAP meeting the intent of R5,R7, and R8, the plan should be provided to the collaborative forum, on which the RC and PC participate.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment: See previous comment on the RC's being inappropriate first line evaluators of RASs.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

In addition to the “six full calendar month(s)” submission periods, periods for acceptable implementation of the CAP should be specified. A statement should be included in requirement R5 to address the situation when a RAS-owner disagrees with the Transmission Planner’s evaluation of a RAS.

Requirement R7 should be changed from “submit Corrective Action Plan to its reviewing Reliability Coordinator(s)” to “RAS-entity provide notice to the affected RC and TOP of the deficiency and when the deficiency is planned to be corrected”. This is good practice to keep operators aware of a change in RAS performance.

A requirement should be added to notify the RC and TOP when the RAS is performing correctly after the CAP has been completed.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

While we have no issue with documenting and developing a CAP, we do not understand the need to submit a CAP to an RC. The RC is not the equipment owner and may not understand the details of the CAP. What purpose is served by submitted the CAP? Any purpose such as notifying the RC of the dates when the RAS will be repaired or how contingencies should be modified in real-time contingency analysis to reflect the deficient operation of the RAS can be handled via other

means. The responsible entity that develops the CAP should maintain and update the plan, which would be available for auditors to review.

We also are concerned that R8 could prevent a CAP from being modified. If the applicable entity must implement the CAP, that implies the moment a CAP is finalized that the measure of compliance begins. Thus, if an applicable entity adds a one month delay to a CAP due to the inability to schedule the work or get parts, they would be in technical violation of the requirement. The standards drafting team modifying PRC-004 has already addressed this issue. We suggest this drafting team adopt their approach which is used in PRC-004-4 R6.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Exelon thinks there should be an attempt to specify a "time not to exceed" for implementing the corrective action following an RAS performance issue. We understand that the mitigation could cover a wide range of issues but putting no limit on the mitigation seems problematic.

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Hydro One Networks Inc. believes that the standard should:

- (R5 and R7) Clearly specify that CAP shall include work (corrective actions) and the work schedule (target completion date). This is written in the rationale for R8, but is not specified in the body of the standard.

Requirements are not clear on what to do in case a CAP changes. Does the RAS-entity need to resubmit changes in CAP (work or work schedule)?

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment: A schedule for implementation should be part of R8 (or R5 and R7).

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

R5 has the incorrect functional entity identified. Manitoba Hydro believe that in most cases, the Transmission Planner identifies the need for the RAS as part of the TPL assessments or other technical studies. If the TP performs a five year assessment and finds the RAS does not work as originally intended, we believe the TP is in the best position to develop a corrective action plan. Such a plan might be to change logic or possibly require faster operation speed. This plan would be tested and functional specifications developed and given to the RAS owner. The RAS Owner would determine the construction schedule, feasibility and cost of the required changes. The TP would then decide whether the RAS should be retained and modified or another change implemented. The TP should be submitting the Corrective Action Plan to the RC in R5 and not the RAS Owner. The RAS-Owner will submit the functional modification changes to the RC as part of R1, if the RAS is to be changed.

It seems unnecessary to include Requirement R8 in the standard. Requirement R5 and R7 already identify the need for the CAP and the RC is informed. The RC is in the best position to identify possible actions in real time (system readjustments) if the CAP is not implemented in a timely manner. TPL-001-4 will catch any contingencies (P1-P7) that do not meet the performance requirements in Table 1. This requirement appears to be redundant and will only

serve to penalize an entity multiple times for the same issue.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE recommends a requirement for reviewing and approving a Corrective Action Plan. If the RC does not review the CAP, the CAP might not be sufficient and could create a reliability gap.

Texas RE is concerned that the timeframes in this standard are too lengthy:

- A 60 month evaluation of RAS per R4;

- A CAP submitteal within six full calendar months of being notified of a deficiency in RAS per R5;
- An analysis of RAS within 120 calendar days per R6;
- CAP submittal within six full calendar months per R7; and
- No time limit on implementing the CAP per R8 so a performance deficiency affecting reliability could go uncorrected for years and entities would remain compliant.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment: Hydro One Networks Inc. believes that the standard should:

- (R5 and R7) Clearly specify that CAP shall include work (corrective actions) and the work schedule (target completion date). This is written in the rationale for R8, but is not specified in the body of the standard.

- Requirements are not clear on what to do in case a CAP changes. Does the RAS-entity need to resubmit changes in CAP (work or work schedule)?

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirement R9 mandates each RAS-owner periodically perform a functional test of each RAS to verify the overall RAS performance and the proper operation of non-Protection System components. Question 9 pertains to Requirement R9.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We generally agree with the application of R5, R7 and R8 would address the reliability objectives associated with CAPs, but R8 should be revised to provide a time frame for completing the implementation as otherwise, a CAP's implementation can be deferred indefinitely.

Requirement R9 mandates each RAS-owner periodically perform a functional test of each RAS to verify the overall RAS performance and the proper operation of non-Protection System components. Question 9

pertains to Requirement R9.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Under Requirement R5, it seems like the CAP should also be submitted to the Transmission Planner because they identified the issue in the first place.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

9. *Functional Testing of RAS (Requirement R9): Do you agree that functional testing of each RAS would verify the overall RAS performance and the proper operation of non-Protection System components? If no, please provide the basis for your disagreement and describe an alternate proposal.*

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer: No

Answer Comment:

As above, the RAS-entity with overall BES system view should be responsible to perform testing of the RAS, based on input from the other RAS-owners.

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

The six calendar years interval is not compatible with the intervals associated with the different kinds of components that may be in a RAS. Consider wording like, "replace "proper operation of non-Protection System components" proper operation of components that do not perform a System Protection function. Capacitor bank switching control, transformer tap changer control, phase shifter control, and generation runback control. Is there already a specific requirement in PRC-005-2 that covers the non-Protection System components of a RAS (PLCs may be used in a RAS, but these are not specifically covered in PRC-005-2). We propose that R9 be removed from PRC-012-2 and moved to PRC-005 (or a new PRC Standard that addresses non protective components) standard, so all the maintenance and testing requirements are consolidated in one place, rather than having a few outliers.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: No

Answer Comment:

AEP does not believe that R9 should be included in PRC-012-2. If anywhere, it should instead be included in PRC-005. A similar requirement exists within the SPR maintenance obligations of PRC-005-4, which requires non-electrical components to be maintained every 72 months. If there are special testing requirements for non-protection system components associated with RAS, then they should be included in PRC-005 where all the other maintenance and testing is identified

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

Functional testing of RAS is a maintenance activity that would be better included in the PRC-005 standard. The present PRC-005-2 Reliability Standard is the maintenance standard that replaces PRC-005-1, 008, 011 and 017 and was designed to cover the maintenance of SPSs/RASs. However, Reliability Standard PRC-005-2 lacks intervals and activities related to non-protective devices such as programmable logic controllers. ATC recommends that a requirement for maintenance and testing of non-protective RAS components be added to a revision of PRC-005-2, rather than be an outlying maintenance requirement located in the PRC-012-2 Standard.

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Requirements R10 and R11 pertain to the RAS database, Attachment 3, and the sharing of RAS information for reliability-related needs. Questions 10 11, 12, and 13 pertain to these topics.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirements R10 and R11 pertain to the RAS database, Attachment 3, and the sharing of RAS information for reliability-related needs. Questions 10 11, 12, and 13 pertain to these topics.

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Requirements R10 and R11 pertain to the RAS database, Attachment 3, and the sharing of RAS information for reliability-related needs. Questions 10 11, 12, and 13 pertain to these topics.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We would like the SDT to discuss the possibility of using either actual operation of the RAS that was found to be functionally correct or perhaps maintenance testing of the RAS to reset the six-year testing requirement.

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: No

Answer Comment:

Although functional testing would verify that the scheme is working as designed, there is no reason to believe that an RAS is any different from another protection system i.e., it would need to be tested at

intervals outside the normal maintenance program. The testing of RAS should fall in line with PRC-005-3 requirements for monitored systems and unmonitored systems.

By requiring “at least once every six calendar years, each RAS-owner shall perform a functional test,” the drafting team is forcing all owners of a RAS that has any Protection Systems in it to abandon the PRC-005-3 12 year Maximum Maintenance Intervals allowed in tables 1-1, 1-2, 1-3, 1-5, and 4.

If Requirement R9 is adopted as stated in this draft of the standard, each segment of a RAS would have to be tested at a maximum interval of 6 calendar years. This would require, for example, that voltage and current sensing devices providing inputs to protective relays of a RAS “shall” be tested “at least once every six calendar years” instead of 12 Calendar years allowed in Table 1-3 of PRC-005-3.

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

ERCOT agrees with the need to test the functionality of RASs; however, it recommends that such testing be coordinated with the RC and that the RC be provided with the results of such testing and any associated corrective actions or modifications that are determined by the RAS entity to be necessary following such testing.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Duke Energy requests further explanation on the benefit of performing “functional testing” as opposed to what is tested currently in PRC-005 and what exactly will be required to be performed outside of what is already performed via the required PRC-005 functional testing. It appears that there may be some redundancies in testing between PRC-012-2 and PRC-005.

Also, R9 adds additional maintenance activities for a RAS beyond the PRC-005-3 requirements. PRC-012 requires that an entity verify

the proper operation of the non-Protection System (control) components of a RAS that are not addressed in PRC-005. It will also require that an entity verify the overall RAS performance. This would be difficult to plan and coordinate, and in some cases would cause intentional and significant system perturbation as well as potential loss of customer load.

Lastly, as written, the supplement sounds like an entity is expected to simulate an out-of-step/power swing condition, and test the internal logic of the SEL relays, which is beyond anything that currently performed for PRC-005. Is this interpretation accurate? If this is accurate, Duke Energy disagrees with the inclusion of such maintenance activities in a separate standard, and believes that all maintenance activities should be kept in one document (PRC-005).

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment:

There needs to be additional definition on what constitutes a functional test. It is not clear what it mean by "non-Protection System components". We would not want to trip generators or load as part of this.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

This would be difficult and in some cases would cause intentional and significant system perturbation as well as potential loss of customer load.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We agree with the segmented testing approach. A Technical Guideline may be required to explain how the six year cycle is measured when allowing segmented testing. Segmented testing can test all components of an RAS every six years, but an individual component could end up being tested once every 10 years; for example, tested in year 1 and year 10.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer:

Yes

Answer Comment:

In order to better align with the Rationale provide for R9, Tri-State suggests the following changes to the Requirement and the associated Measure:

Requirement 9: Each RAS-owner shall perform a functional test of each individual segment of each RAS at least once every six calendar years per segment, or at least once every six calendar years shall perform a functional test of each RAS, to verify the overall RAS performance and the proper operation of non-Protection System components. A correct operation of the RAS would qualify as a functional test.”

Measure 9: “Acceptable evidence may include, but is not limited to, date-stamped documentation of the functional testing of the entire RAS, or of the individual segments of the RAS. Alternatively, acceptable evidence may also include date stamped documentation of a correct operation of the entire RAS or of the individual segments of the RAS.”

Document Name:

Likes:

0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We are concerned that this requirement will create redundancies with PRC-005. As an example, PRC-005 already requires the applicable entity to verify the output of protection relays that are part of RAS in Table 1-1 and to verify all paths of control circuits in Table 3 every 12 calendar years. Furthermore, the periodicity associated with R9 is not consistent with the tests required in PRC-005. If R9 persists, these redundancies should be removed from PRC-005.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1) Hydro One Networks Inc. agrees with NPCC with the following: *any maintenance activities associated with RAS should **not** appear in this standard. The functional testing approach attempted in this standard is found to be unworkable and confusing. The only alternative proposal is to have all maintenance activities associated with RAS in a future revision of PRC-005.*

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

HQT understands the intent of R9, but having testing and maintenance of RAS covered in two separate standards (PRC-005-3 and PRC-012-2) is confusing and unpractical. NERC should seriously consider covering the testing and maintenance of every component of a RAS within the same standard.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE does not agree that RAS is not a protection system component. Texas RE recommends that there is a requirement to test RAS components. Texas RE is concerned that the verbiage "each RAS" will not require entities to functionally test all RAS interactions.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1) Hydro One Networks Inc. agrees with NPCC with the following: *any maintenance activities associated with RAS should **not** appear in this standard. The functional testing approach attempted in this standard is found to be unworkable and confusing. The only alternative proposal is to have all maintenance activities associated with RAS in a future revision of PRC-005.*

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Requirements R10 and R11 pertain to the RAS database, Attachment 3, and the sharing of RAS information for reliability-related needs. Questions 10 11, 12, and 13 pertain to these topics.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:
Requirements R10 and R11 pertain to the RAS database, Attachment 3, and the sharing of RAS information for reliability-related needs. Questions 10 11, 12, and 13 pertain to these topics

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:
It is recommended that RAS maintenance/testing be consolidated into only one standard, either PRC-005 or PRC-012, not both.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

However, the extent of monitoring of the non-protection systems should be considered in allowing for exceptions/extensions.

For example, if a PLC is continuously monitored, the 'health' of the PLC should not be of any concern and a functional test of the PLC should not be required. What could be required though is a functional test of the logic within the PLC. They may not be mutually exclusive in most cases, but it should be considered and left up to the RAS entity to decide.

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

10. *Choice of Reliability Coordinator (Requirement R10): Do you agree with the Reliability Coordinator being the functional entity designated to maintain the RAS database? If no, please provide the basis for your disagreement, your choice of functional entity, and the rationale for your choice.*

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We agree that the RC may be the best single functional entity to assign the obligation of maintaining a RAS database. However, we suggest that R10 include the obligation to provide information from this database to functional entities that request it and have reliability need for it (e.g. PCs and TPs). Consider wording like, ". . . provide information from the database to functional entities that request and have a reliability need for the RAS information".

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

AEP seeks clarification on line item #3 to ensure the existing evaluation performed by the RRO, in accordance with industry best practice, is the most recent date supporting requirement R2 of this standard.

*3. Expected or actual in-service date; **most recent (Requirement R2)** review date; 5-year (Requirement R4) evaluation date; and, date of retirement, if applicable*

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

While we agree that the RC is the appropriate entity to maintain the database, pursuant to our comment under Q3 in which we suggest the SDST to consider involving Planning Coordinators in the evaluation process, we suggest the PC also be assigned this task for RASs that have been planned and evaluated in the long-term planning timeframe. Some entities may have a need for planned RAS information for modeling.

Document Name:

Likes: 0

Dislikes: 0

Andrew Puztai - American Transmission Company, LLC - 1 -

Selected Answer: No

Answer Comment:

ATC agrees that the RC may be the best single functional entity to assign the obligation of maintaining a RAS database. However, ATC suggests that R10 include the obligation to provide information from this database to functional entities that request it and have a reliability need for it (e.g. PCs and TPs). Consider rewording such as, ". . . provide information from the database to functional entities that request and have a reliability need for the RAS information".

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

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

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

While ERCOT agrees that the RC is the appropriate entity to maintain the database, pursuant to its comment under Q3 in which it is suggested that the SDST consider involving Planning Coordinators in the evaluation process, ERCOT suggests the RC be responsible for providing the database to the PC.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Duke Energy questions whether requiring the RC to maintain the RAS database enhances reliability. This requirement can be viewed as an administrative burden on the RC, and we feel that instead of requiring the RC to maintain a database, that the RC should only be required to be familiar with the RAS that exists in its area.

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

The RCs should not be responsible for the evaluation and coordination of RASs therefore making them in charge of the database of RASs would be inappropriate. The RCs should be notified of RAS installations, modifications and retirements and could have a requirement to acknowledge receipt from the RAS owners on any of the above RAS activities.

Document Name:

Likes: 1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

This could be the RC or PC; both have a need to know the location and performance characteristics.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

We question the need to have a requirement to maintain a database especially since many of the other requirements cannot be met without information in the database. In essence, the other requirements create an indirect requirement for a database. However, we believe it is actually the PC that should maintain this information if the requirement persists.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:
See Q1 above.

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Texas RE recommends aligning Attachment 1 with Attachment 3. The rationale for R10 states that the database will be comprehensive but it isn't comprehensive without the information in both Attachment 1 and Attachment 3.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment: See Q1 above.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment: This is an administrative requirement that seems inappropriate for RC entities.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

While we agree that the RC is the appropriate entity to maintain the database, pursuant to our comment under Q3 in which we suggest the SDST to consider involving Planning Coordinators in the evaluation process, we suggest the PC also be assigned this task for RASs that have been planned and evaluated in the long-term planning timeframe. Some entities may have a need for planned RAS information for modeling.

Note - These SRC comments represent a consensus of the ISOs/RTOs with the exception of ERCOT.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

A method for Regional Entities to transfer information from their existing SPS/RAS databases to the appropriate RC(s) should be considered.

Document Name:

Likes: 0

Dislikes: 0

11. Information listed in Attachment 3 (Requirement R10): Do you agree that the RAS information required in Attachment 3 provides the Reliability Coordinator with enough detail of each RAS to meet its reliability-related needs? If no, please identify what other reliability-related information should be included in Attachment 3 and the rationale for your choice.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: No

Answer Comment:

Comments: PacifiCorp represents that it is unable to answer this question without the RC providing more detail about its reliability-related needs.

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: No

Answer Comment:

Attachment 3 should also include other information required by the RC Data Request to allow for information beyond that currently specified in Attachment 3.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:
Add RC approval date

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: No

Answer Comment:

Attachment 3 should include a listing of the RAS Owners.

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

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

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:
See Duke Energy's response and comment to question 10.

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 1 -

Selected Answer: Yes

Answer Comment:

R10 should include a sub-requirement for RCs to share their database with neighboring RCs to provide coordination of RAS schemes near RC borders.

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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment:

Besides the initiating condition(s), there should be a sequence of events (actions taken) by the RAS for each condition.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

In addition to the detail in attachment 3, it would be important to receive breaker diagrams, list of elements being monitored and actual trigger levels, any associated pre-RAS action alarms, elements being triggered by the RAS (i.e. Breaker at substations, etc).

Document Name:

Likes:

1 Florida Municipal Power Agency, 3,4,5,6, Gowder Chris

Dislikes:

0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer:

No

Answer Comment:

The wording of the lengths of time for meeting a requirement should be consistent. Requirement R4 specifies 60 full calendar months,

Attachment 3 Item 3 refers to a 5-year evaluation date.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE recommends aligning Attachment 1 with Attachment 3. The rationale for R10 states that the database will be comprehensive but the data is not comprehensive without the information in both Attachment 1 and Attachment 3.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:
Although the answer is Yes, it is made in the context of this is information that should be provided as a matter of course to the RC as an area operating entity and NOT because it should be keeping a database or performing a review.

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: No

Answer Comment:

The expectation should be that "grandfathered" schemes which may never have been presented then be presented to the RC. This will ensure that all schemes (new and existing) adhere to the new requirements and guidelines.

That said, an agreed upon action plan to update the "grandfathered" schemes per the new requirement should be acceptable.

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer:

Answer Comment:

TVA supports the comment filed by the SERC Dynamics Review Subcommittee (DRS) on this question.

Document Name:

Likes: 0

Dislikes: 0

12. Requirement R11: Is there a reliability benefit of Requirement R11? Please provide the rationale for your answer.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Fulfillment of R11 would always provide a reliability benefit because the requirement specified that the requesting entity has to have a reliability-related need for the information.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment:

AEP supports the applicability of R11, however we seek clarification on the requirement to ensure that R11 applies only to RASs that are in-service.

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

And please see our comment under Q10 for data that may be required for modeling in the long-term planning timeframe.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: No

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:
The requirement is duplicative of other information sharing requirements such as TOP-003-3 R5.

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

However, given the coordination that ERCOT recommends between the RC and PC, it suggests that the provision of data between these entities not be required to be governed on a "request" basis.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

But we believe the Measure and the RSAW should be written such that the RAS-entity is not trying to prove the negative (that they received no

request). An attestation of “no requests received” should be sufficient evidence.

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Is a request to provide information for the database described in R10 supposed to start the 30-day clock indicated in requirement R11? If so, that should be made clear.

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: No

Answer Comment: While this requirement benefits the entity requesting the information, R11 does not provide a clear system reliability benefit.

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer:

No

Answer Comment:

Requirement R11 is a “in case we forgot an entity that needs the information” requirement. It meets multiple paragraph 81 criteria (B1-Administrative, B4 Reporting, and B7-Redundant). First, it is administrative in nature and creates needless burden on the applicable entity. Who makes the final judgment call on whether a reliability need was demonstrated? The applicable entity? The requester? The auditor? Because of this uncertainty, the applicable entity will spend unnecessary time and resources on demonstrating compliance with a requirement that has questionable reliability benefit. The questionable reliability benefit is even demonstrated by the language of in the supplemental materials on page 21 which begins with “Other registered entities **may** (emphasis added) have reliability-related need.” These materials do not even seem to be sure that there is reliability benefit with the “may” language. Second, it requires reporting information to third parties which appears to provide little reliability benefit. If this requirement does not exist, entities that have the reliability related need for this information still have multiple avenues to get the data (e.g. regional model building processes, via Planning Coordinator, and via a direct request). We simply do not believe an applicable entity will refuse this information to a third party that is a reliability entity and truly has the need for such data. Finally, this requirement is redundant with other requirements in this standard that already require communication of this information to other reliability entities such as the Reliability Coordinator. Please remove this requirement before the first formal posting.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1)Hydro One Networks Inc.:

Regions and RCs will establish (have established) their own procedures and requirements for exchange of detailed RAS data/model. The requirement for providing general RAS data/model could be handled by the MOD-032 standard.

2)Hydro One Networks Inc. also agrees with NPCC in that: *R11 mandates 30 calendar days for providing requested information for a modelling need--is this intended to apply to Requirement R10 as well for providing information to maintain the database? If so, words must be added.*

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

The information provided through R10 is appropriate for a high level view of RAS in a specific area, but is definitely not sufficient if an entity has a reliability need for more information. In that sense, R11 seems justified.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

It is not clear at what stage other entities might be involved in the RAS assessment process and require models? Should the RC be responsible for determining whether other entities have a reliability

related need for a proposed RAS model rather than the RAS owner?

Would it not be simpler to make this a requirement for the RAS owner to develop a model for all RAS that are required to meet the performance requirements of contingencies P1-P7 in Table 1 of TPL-001-4 and include the model in the NERC model building process (MOD-032-1) or possibly adjacent TPs and PCs can coordinate in developing models through TPL-001-4 (R3.4.1 & R4.4.1)? Better yet, the RAS owner should develop and provide the final tested model to its Transmission Planner and Reliability Coordinator. The TP and RC could share models with adjacent entities as required for reliability purposes.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: Yes

Answer Comment:

Texas RE agrees that there is a benefit in sharing information that affects operation of the grid. Texas RE recommends clarifying the term "Reliability-related need".

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

1)Hydro One Networks Inc.:

Regions and RCs will establish (have established) their own procedures and requirements for exchange of detailed RAS data/model. The requirement for providing general RAS data/model could be handled by the MOD-032 standard.

2)Hydro One Networks Inc. also agrees with NPCC in that: *R11 mandates 30 calendar days for providing requested information for a modelling need--is this intended to apply to Requirement R10 as well for providing information to maintain the database? If so, words must be added.*

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:
And please see our comment under Q10 for data that may be required for modeling in the long-term planning timeframe.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: No

Answer Comment:

This requirement seems to assume that RAS-entities need to be mandated to provide the requested information. Is there evidence that RAS-entities will generally avoid providing the requested information? If not, then this requirement imposes an administrative burden with little reliability benefit.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

BPA requests additional clarification of “registered entity” as referenced in R11. This is not a NERC-defined term.

“Within 30 calendar days of receiving a written request from a **registered entity** with a

reliability-related need to model RAS operation, each RAS-entity shall provide the

requesting entity with either the requested information or a written response specifying the basis for denying the request.”

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: No

Answer Comment:

Assuming the RC Database is up to date, the info in Attachment 3 already provides the same info requested per R11

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

13. Choice of RAS-entity (Requirement R11): Do you agree with the RAS-entity being the entity designated to provide the detailed RAS information to other registered entities with a reliability-related need? If no, please provide the basis for your disagreement, your choice of entity, and the rationale for your choice.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: Yes

Answer Comment:

The standard needs to be more specific how a RAS entity is determined. In addition, the Planning Coordinator should be considered as a RAS-entity (please see our comment under Q10).

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

Dominion believes it is appropriate to designate the RAS-entity to provide information contained in Attachment 1. However, if the request is for information contained in Attachments 2 or 3, Dominion believes the designated entity should be the RC.

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer: Yes

Answer Comment:

RAS-owner and RAS-entity should also be NERC defined terms.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

Selected Answer: No

Answer Comment:

RAS-entity is an undefined term and not reflected in the Functional Model. In most cases the entity is probably also a GOP or TOP but could be an entity who is neither of these. Unless the RAS-entity is defined as an identified, enforceable Functional Entity, compliance and reliability authority becomes unclear

Document Name:

Likes: 0

Dislikes: 0

Gul Khan - Oncor Electric Delivery - 2 - TRE

Selected Answer: No

Answer Comment:

Since the Regional Entity will be keeping the database on each RAS, there is no need for any entity to go to the RAS Entity for information. This requirement places extra compliance burden on the RAS Entity to provide addition information unnecessarily.

Document Name:

Likes: 0

Dislikes: 0

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 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: No

Answer Comment:

The RAS-entity being the entity to provide the detailed RAS information to other registered entities should be the Transmission Planner or FRCC Planning Coordinator since they study the reliability impact of the RAS and maintain the system models.

Document Name:

Likes: 0

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

We agree there should be one primary equipment owner responsible for submitting the data. However, we believe all requirements applicable to the RAS-owner should actually apply to RAS-entity for simplicity. Otherwise, the simplicity of using a RAS-entity is not

realized. Using RAS-entity for only a sub-set of requirements does not reduce the complexity of the standard.

Document Name:

Likes: 0

Dislikes: 0

Chris Scanlon - Exelon - 1 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Hydro One Networks Inc.:

Regions and RCs will establish (have established) their own procedures and requirements for exchange of detailed RAS data/model. The requirement for providing general RAS data/model could be handled by the MOD-032 standard.

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Quebec TransEnergie - 1 - NPCC

Selected Answer: Yes

Answer Comment:

The SDT should consider giving more rationale or guidelines on the roles of the RAS-owner and RAS-entity and how to appropriately define the RAS-entity.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Please see 12 above. The RAS-entity should be confirming the model after functional tests are performed in R9 and providing the model to its Transmission Planner and Reliability Coordinator. The TP and RC are in the best position to use the models and coordinate with adjacent entities in this standard and other standards.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Texas RE recommends clarity regarding how an entity is designated a "RAS-entity". It is not clear if it is the same as the RAS-owner. With no requirement to designate a RAS-entity, it is not clear who would be responsible for the reliability requirements if there is no RAS-entity

designated.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer: No

Answer Comment:

Comments: Hydro One Networks Inc.:

Regions and RCs will establish (have established) their own procedures and requirements for exchange of detailed RAS data/model. The requirement for providing general RAS data/model could be handled by the MOD-032 standard.

Document Name:

Likes: 0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer: Yes

Answer Comment:

Along with the Planning Coordinator (please see our comment under Q10).

Note - These SRC comments represent a consensus of the ISOs/RTOs with the exception of ERCOT.

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

14. If you have any other comments that you haven't already provided in response to the above questions, please provide them here.

Barbara Kedrowski - We Energies - Wisconsin Electric Power Co. - 3,4,5 - RFC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Applicability Section 4.1.4 – The term “RAS-entity” is vague and not self-explanatory. We would prefer that the standard only refer to “RAS-owners” and the requirements use wording like “ each RAS-owner, individually or jointly . . .”. Otherwise, if the representative approach is retained, then we suggest using an alternative label, such as “RAS-agent” or “RAS-representative” to be more closely aligned with the entity’s function.

R1, Rationale, sentence 2 – The definition of “functional modification” should be qualified further with wording like, “is any alteration of a RAS that leads to the performance of a different operational objective or action. The replacement of RAS components, the changing of RAS settings or software upgrade does not modify the RAS functionality, if the intended operational objective or result is achieved.

R3 - We suggest that “mutually agreed upon” be added in R3. The RAS-entity should have some reasonable check and balance to the RC identified reliability related issue.

R5, R6, R7 - We suggest that “or mutually agreed upon time-frame” be added in R5 and R7. The RAS-entity and the RC should have the flexibility to agree upon a time that a corrective action plan is needed based upon workloads and risk. A one-size fits all approach does not benefit system reliability or risk-based concepts.

Document Name:

Likes: 0

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer:

Answer Comment:

Clarity is needed in R4 as to exactly what the trigger is for the 60 full month periodic review. Is it tied, perhaps, to the in-service status? In addition, rather than a 60 full month periodic review, AEP suggests a "5 calendar year" review. This would allow flexibility for an entity to integrate this work into its annual planning cycle.

Document Name:

Likes: 0

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer:

Answer Comment:

The standard requires only one RC to review the RASs that are located in its area of responsibility. There are RASs that in case of incorrect operation or failure could affect a neighboring entity even if they are located in one area. In these cases should the standard require a coordinated review with the affected neighbors?

The standard requires reviewing of the new or modified RASs. What level of modification would trigger a review for a RAS that was in service before the standard becomes effective? Please specify.

Document Name:

Likes: 0

Dislikes: 0

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer:

Answer Comment:

Applicability Section 4.1.4 – The term “RAS-entity” is vague and not self-explanatory. ATC would recommend that the standard only refer to “RAS-owners” and the requirements be reworded such as “each RAS-owner, individually or jointly . . .” Otherwise, if the representative approach is retained, then we suggest using an alternative label, such as “RAS-agent” or “RAS-representative” to be more closely aligned with the entity’s function.

R1, Rationale, sentence 2 – The description of “functional modification” should be qualified further with wording such as, “is any alteration of a RAS that leads to the performance of a different operational objective or action. The replacement of RAS components, the changing of RAS settings or upgrading software does not modify the RAS functionality, if the intended operational objective or result is achieved.

Document Name:

Likes: 0

Dislikes: 0

Brian Bartos - CPS Energy - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Louis Slade - Dominion - Dominion Resources, Inc. - 6 -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Dominion suggests that the explanation from footnote 13, Page 16, from the SCPS Technical Report, be added into the Supplemental material to help identify the purpose of “4.1.4 RAS-entity – the Transmission Owner, Generator Owner, or Distribution Provider designated to represent all owners of the RAS.”

Dominion agrees with the recommendation contained in the SCPS Technical report (page 17) that states “When deciding whether to approve an SPS, the Reliability Coordinator and the Planning Coordinator in whose area the SPS is to be installed or modified should be required to consider supporting information provided with the application; comments from Transmission Planners, Transmission Operators, and Balancing Authorities and other Reliability Coordinators and Planning Coordinators; and any supplemental information provided by the SPS owner. “ and suggests it be incorporated into the Supplemental Material.

Dominion does not see the need to use the word ‘full’ before calendar month in the Supplemental Material and is concerned that its use in this standard could result in uncertainty surrounding the use of calendar month in other standards.

Attachment 1, Section II refers to Table 1, Category P7. What is the relevance to making reference to Category P7 uniquely and specifically (tower line or bipolar DC line)?

Attachment 1, Section III-Implementation states, “Documentation describing the functional testing process.” Dominion recommends

deleting this bullet. This information is not necessarily available during the early preliminary design stage. The approval of the design is sought prior to detailed engineering.

Document Name:

Likes: 0

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Jared Shakespeare - Peak Reliability - 1 -

Selected Answer:

Answer Comment:

The revised PRC-012 addresses new RAS, retired RAS, and functionally modified RAS. The revised Standard does not address existing RAS, and therefore neglects any potential reliability issues associated with them. Peak believes that existing RAS should not be automatically grandfathered and that there should be a one-time process to review existing RAS in accordance with the new PRC-012.

Document Name:

Likes: 0

Dislikes: 0

Jeni Renew - SERC Reliability Corporation - 10 - SERC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Selected Answer:

Answer Comment:

Language in R4 should be changed to allow for an “assessment” to lessen the level of review if no changes occur to the RAS or the area electric system RAS is designed to protect. Suggest the following language:

R4. Each Transmission Planner shall perform an **assessment** of each RAS within its planning area at least once every 60 full calendar months and provide the RAS-owner(s) and the Reliability Coordinator(s) the results including any identified deficiencies. Each evaluation shall determine whether: *[Violation Risk Factor:] [Time Horizon:]*

There should be a phased in implementation plan for RC review of existing RAS installations. If the Implementation Plan contemplates a review of all existing RAS installations then that would be an overwhelming task.

R4.3, Attachment 1 and Attachment 2:

All three items state the performance requirements for inadvertent operation of an RAS are the same as those for the condition that it was installed. This is not the correct metric to use. All of the performance requirements in the TPL should be met if there is inadvertent operation.

Document Name:

Likes:

0

Dislikes: 0

Jason Smith - Southwest Power Pool, Inc. (RTO) - 2 - SPP

Error: Subreport could not be shown.

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

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1,3 - MRO

Selected Answer:

Answer Comment:

MidAmerican has concerns about “redundancy” and “guidance” to steer SPS / RAS designs and mandatory requirements. The language needs to be modified to strike the “appropriate level of redundancy” and replace it with a concept that the “design of the RAS / SPS must meet its performance objective within the TPL requirements even with single component failure. The RAS / SPS just has to survive a single component failure and still achieve its reliability objective. The method or “how” this is achieved should be left to the RAS / SPS owner with input from the regional RC.

MidAmerican suggests that wording in Attachment 1, Section III be modified to concentrate on the “design” of the RAS / SPS rather than specifying a narrow interpretation of redundancy.

*"Documentation showing that **the design of the RAS** is such that a single RAS component failure, when the RAS is intended to operate, does not prevent the interconnected transmission system from meeting the same performance requirements (defined in Reliability Standard TPL-001-4 or its successor) as those required for the System events and conditions for which the RAS was designed. The documentation should describe or illustrate how the implementation design achieves this objective."*

Document Name:

Likes: 0

Dislikes: 0

christina bigelow - Electric Reliability Council of Texas, Inc. - 2 -

Selected Answer:

Answer Comment:

As RASs may have an impact in both the long and short-term horizons, ERCOT recommends that the SDT consider revising the standards as set forth above to ensure that such coordination and associated information exchanges occurs.

Document Name:

Likes: 0

Dislikes: 0

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RFC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Duke Energy requests further clarification on the use of varying measurements of time. In multiple places throughout the standard, the drafting team uses the measurement of “full calendar months”. In other places (R6 and R11) the measurement “calendar-days” is used. We request more clarification on the difference between the two, or a revision wherein only one measurement is used for consistency.

Duke Energy suggests that Attachments 1 and 2 be changed from bullets to numbers or letters so every item is referenced clearly and unambiguously.

On Attachment 1. Section III – Implementation. Fourth bullet, Duke Energy suggests moving it to Section II - Functional Description and Transmission Planning Information before the Fifth Bullet.

On Attachment 1. Section II – Functional Description and Transmission Planning Information. The fifth bullet should include language to address “adequate level of redundancy” and “single RAS component failure”. These two definitions are too vague and might lead to very different interpretation depending to the type of RAS.

Duke Energy requests clarification regarding how PRC-012-2 will address the failure to operate and inadvertent operation of a “fully redundant” RAS (i.e.,D12 and D13 in the present TPL standards). If does not appear that they are addressed in the present draft.

Document Name:

Likes: 0

Dislikes: 0

Michael Moltane - International Transmission Company Holdings Corporation - 1 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment: No comment.

Document Name:

Likes: 0

Dislikes: 0

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Eric Senkowicz - Florida Reliability Coordinating Council - NA - Not Applicable - FRCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Our thanks for the drafting team's efforts on trying to improve the clarity

of the standards with respect to RASs.

Document Name:

Likes: 0

Dislikes: 0

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

The definitions for “Functionally Modified” as used in Attachments 1 and 2 should be included in definitions specifically used in this standard, and not in footnotes.

“Power System” is used throughout the body of the standard. Should it be Bulk Electric System?

Requirement R2 stipulates that each reviewing Reliability Coordinator has four calendar months, or on a mutually agreed upon schedule after receipt of Attachment 1 materials to perform a review of the RAS in accordance with Attachment 2. There should be an upper bound put on a mutually agreed upon schedule to prevent excessively long times for this review to take place.

Requirement R5, as written, suggests that independent Corrective Action Plans should be submitted by each RAS-owner. It is proposed to change this to "RAS-entity," "RAS-entity in coordination with all RAS-owners" or "all RAS-owners shall jointly".

Requirement R6, as written, suggests that independent analyses should be performed by each RAS-owner. It is proposed to change this to "RAS-entity," "RAS-entity in coordination with all RAS-owners" or "all RAS-owners shall jointly".

Requirement R7, as written, suggests that independent Corrective Action Plans should be submitted by each RAS-owner. It is proposed to change it to "RAS-entity," "RAS-entity in coordination with all RAS-owners" or "All RAS-owners shall jointly".

Requirement R9 stipulates that "At least once every six calendar years, each RAS-owner shall perform a functional test of each RAS to verify the overall RAS performance and the proper operation of non-Protection System components." An overall test includes Protection System components, as well as non-Protection System components, and operating any system equipment. Is this the intent of the Requirement?

Document Name:

Likes:

0

Dislikes: 0

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Chris Gowder - Florida Municipal Power Agency - 3,4,5,6 - FRCC

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Selected Answer:

Answer Comment:

FMPA agrees with comments submitted by FRCC Reliability Coordinator.

Document Name:

Likes: 0

Dislikes: 0

Jason Marshall - ACES Power Marketing - 6 - MRO,WECC,TRE,SERC,SPP,RFC

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Selected Answer:

Answer Comment:

Requirement R1 is redundant with TPL standards. Since a RAS is installed to address reliability issues, it is, in essence, also installed to address performance requirements in planning studies. Thus, installation will have already been studied and addressed in the TPL studies (see Part 2.7.1). Since the Planning Coordinator is the reliability entity that should be reviewing and approving RAS, there would be no additional need to include Requirement R1 to submit this data as the Reliability Coordinator can and should get the information from the Planning Coordinator.

We are concerned that the Rationale Box for R3 implies that the Reliability Coordinator should be approving the trade-offs between dependability and security made by the equipment owners. We disagree. The Reliability Coordinator should simply be aware of how the RAS operates and the associated risks of Misoperation so that they can model in their operational studies.

We are concerned that there are overlaps with the TPL standards. Some have been mentioned in other questions. We won't repeat those here. However, we are concerned that R4 is redundant. Wouldn't the TP already be required to perform an evaluation of each RAS in the TPL standards since they have to consider RAS explicitly? TPL-001-4 Part 2.7.4 requires the "continued validity" of CAPs developed to address meeting performance requirements of the TPL standards to be reviewed annually. Since CAPs can include installation of RAS, this implies that study will be performed annually by the PC and TP to verify the RAS.

Part 4.3 should not reference the TPL standards. The performance requirements of the TPL standards stand alone and will be met. There is no need to reference them in this standard and potentially create redundancy and double jeopardy issues.

The measures need significant improvement as they are very generic. In general, they provide no more detail or guidance on how to demonstrate or measure compliance with the requirement. They primarily state that the applicable entity should have dated and time-stamped documentation which is basic requirement for any evidence. This is generic enough that a single generic measurement could be written to replace them.

Document Name:

Likes: 0

Dislikes: 0

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Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

David Jendras - Ameren - Ameren Services - 3 -

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Hydro One Networks Inc.:

1)RAS are required for the reliability of the power system and compliance with the NERC reliability standards. As such, it is not the RAS owner who would decide on the need for a new or modified RAS and its functional specification. Instead, it is the TP who determines if a new RAS is needed or a RAS needs to be modified to meet the TPL-001-4 or other requirements. Just as R4 of PRC-012-2 requires "Each Transmission Planner shall perform an evaluation of each RAS within

its planning area at least once every 60 full calendar months”, it is only logical that before adding a new RAS or modifying an existing RAS, the TP should perform an evaluation and determine its functional specification. This must be the first requirement in PRC-012-2, similar to R1 of PRC-010-1/2.

2)The RAS owners design and engineer the RAS to meet the functional requirements specified by the TP.

3)Then R1 (which becomes R2) should ask the TP who has done the evaluation of new or modified RAS (not the RAS owner) to provide the information to RC, unless the TP and RC functions are performed by the same organization. TP has the information in Part II of the checklist in Attachment 1. Part III is the information that RAS owner can provide to TP or to RC.

Document Name:

Likes: 1 Hydro One Networks, Inc., 1, Farahbakhsh Payam

Dislikes: 0

Si Truc Phan - Hydro-Qu?bec TransEnergie - 1 - NPCC

Selected Answer:

Answer Comment:

None

Document Name:

Likes:

0

Dislikes:

0

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

Selected Answer:

Answer Comment:

The scope of PRC-012-2 should be limited to cover RAS that are needed to meet the performance requirements of Table 1 in TPL-001-4 for disturbances in category P1 through P7 in order to remove extreme disturbances from the scope of the standard.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Texas RE is concerned there is there is a reliability gap in the determination of UVLS and its relationship to several standards projects including this one. In Project 2008-02.2 UVLS there is indication in the technical guide that certain UVLS will not be in a UVLS Program but would be considered a RAS yet the definition of RAS may exclude those UVLS systems. Texas RE acknowledges the need for flexibility, however, too much flexibility could cause reliability gaps that are

supported by the language of the standards.

It appears in several projects many UVLS relays will now not be analyzed for misoperations (PRC-004-5), will not be in a UVLS Program (PRC-010), will not be considered a RAS (PRC-012-2) and will not be maintained per PRC-005. Texas RE requests the SDTs review these projects and determine the impacts thereof.

Document Name:

Likes: 0

Dislikes: 0

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

Selected Answer:

Answer Comment:

Hydro One Networks Inc.:

1)RAS are required for the reliability of the power system and compliance with the NERC reliability standards. As such, it is not the

RAS owner who would decide on the need for a new or modified RAS and its functional specification. Instead, it is the TP who determines if a new RAS is needed or a RAS needs to be modified to meet the TPL-001-4 or other requirements. Just as R4 of PRC-012-2 requires “Each Transmission Planner shall perform an evaluation of each RAS within its planning area at least once every 60 full calendar months”, it is only logical that before adding a new RAS or modifying an existing RAS, the TP should perform an evaluation and determine its functional specification. This must be the first requirement in PRC-012-2, similar to R1 of PRC-010-1/2.

2)The RAS owners design and engineer the RAS to meet the functional requirements specified by the TP.

3)Then R1 (which becomes R2) should ask the TP who has done the evaluation of new or modified RAS (not the RAS owner) to provide the information to RC, unless the TP and RC functions are performed by the same organization. TP has the information in Part II of the checklist in Attachment 1. Part III is the information that RAS owner can provide to TP or to RC.

Document Name:

Likes:

0

Dislikes: 0

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC

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Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Daniela Hammons - CenterPoint Energy Houston Electric, LLC - 1 - TRE

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 -

Error: Subreport could not be shown.

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6 -

Selected Answer:

Answer Comment:

Tacoma Power recommends that the definition of 'RAS-owner' be limited to functional ownership, as opposed to component ownership. For example, if one company owns a station DC supply, some wiring, and trip coil, but another company owns the control device at the same location, the entity that owns the control device should be a RAS-owner, and the entity that owns the station DC supply, wiring, and trip coil should not be a RAS-owner. Another example would be an

entity that owns sensing devices that another entity uses to provide inputs to a relay or PLC that it owns; the entity that owns the sensing devices in this example should not be a RAS-owner. Yet another example is when one entity owns a portion of the communications system; simply owning part of the communications system should not make the entity a RAS-owner.

Under Requirements R5, R6, R7, and R9, responsibility should be that of the RAS-entity, not the RAS-owner(s). Yes, RAS-owners may participate in fulfilling these requirements, but the RAS-entity should be the liaison. This proposed change may necessitate an additional requirement for RAS-owners to designate one RAS-entity for each RAS; in the event that consensus cannot be obtained among RAS-owners, the Reliability Coordinator should designate the RAS-entity.

Examples of what is and is not a functional modification would be beneficial.

Document Name:

Likes: 0

Dislikes: 0

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Selected Answer:

Answer Comment:

None.

Document Name:

Likes:

0

Dislikes:

0

Rico Garcillano - Pacific Gas and Electric Company - NA - Not Applicable - WECC

Selected Answer:

Answer Comment:

More clarity needs to be provided in terms of what counts as a

functional modification as it is too subjective right now.

An example is if a line which is currently monitored as an outage for a scheme is bisected by a new looped sub, the scheme would be modified to monitor the two "new" lines created by new sub.

The conservative approach would be to submit for review and present the changes. But I would argue that if the load/gen is minimal, and the RAS actions are unchanged, a presentation and detailed review is not needed. If the RAS actions change as a result of the new sub, then I can see a review being required. Additionally, if a changes in the RAS actions are to take additional actions already part of the scheme, a less detailed reviewed could be required; vice versa, if new RAS actions are required, a more detailed review may be needed.

It may seem trivial, but with the amount of Capital investment going into our Transmission System right now, presenting every minor change that truly doesn't modify the functionality of a scheme would be a huge strain on resources.

Document Name:

Likes: 0

Dislikes: 0

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer:

Answer Comment:

Document Name:

Likes: 0

Dislikes: 0

Attachment 2 Reliability Coordinator RAS Review Checklist

The following checklist identifies ~~important~~^[JSW1] reliability-related considerations for the Reliability Coordinator (RC) to review and verify for each new or functionally modified² RAS. The RC review is not limited to the RAS checklist items and the RC may request additional information on any reliability issue related to the RAS.

Determination of Review Level

RAS can have varying impacts on the power System. ~~RAS with more significant impact~~^[WTL2] ~~require a higher level of review than those having a lesser impact.~~^[JSW3] ~~The RC will determine t~~^[JSW3] The level of review ~~by the RC may be limited if based on~~^[JSW3] the System response for a failure of the RAS to operate or ~~if the~~^[JSW3] inadvertent operation of the RAS could ~~not~~^[JSW3] result in any of the following conditions:

- frequency-related instability
- unplanned tripping of load or generation
- uncontrolled separation or ~~cascading~~^[JSW4] ~~outages~~^[JSW4]

If ~~there is the potential for~~^[JSW3] any of the conditions above ~~to occur may be produced,~~^[JSW3] the ~~entire RC RAS~~^[JSW3] review checklist ~~should include below should be followed.~~^[JSW3] ~~the RAS Design following criteria below.:~~^[JSW3]

~~RAS retirement reviews may use an abbreviated format that concentrates on the Planning justifications describing why the RAS is no longer needed. Implementation issues will seldom require removal review.~~^[JSW5]

RAS DESIGN

- ❑ ~~System-Performance Objectives — The~~^[JSW6] ~~The~~^[JSW6] RAS actions satisfy System performance objectives for the scope of System events and conditions that the RAS is intended to mitigate.
- ❑ ~~Arming Conditions -~~^[JSW6] The RAS arming conditions, if applicable, are appropriate to its System performance objectives.
- ❑ ~~Adverse Interactions – The~~^[JSW6] ~~—The~~^[JSW6] RAS avoids adverse interactions with other RAS, ~~P~~^[JSW6] ~~protection S~~^[JSW6] ~~system~~^[JSW6] (s), control system(s), and ~~O~~^[JSW6] ~~perating~~^[JSW6] ~~P~~^[JSW6] ~~procedure~~^[JSW6] (s).
- ❑ ~~Misoperations – The effects of RAS incorrect operation, including inadvertent operation and failure to operate (if non-operation for RAS single component failure is acceptable), have been identified.~~^[JSW6]
 - ~~The inadvertent operation of the RAS satisfies the same performance requirements as those required for the contingency for which it was designed. For RAS that are installed for conditions or contingencies for which there are no applicable System performance requirements, the inadvertent operation satisfies the System performance requirements of Table 1, Category P7 of NERC Reliability Standard TPL-~~^[JSW6]

Attachments

001-4 or its successor.

- Future Plans – The effects of future System plans on the design and operation of the RAS, where applicable, have been identified.

² Functionally Modified:

Any modification to a RAS beyond the replacement of components that preserve the original functionality is a functional modification.

- ~~□ The effects of future System plans on the design and operation of the RAS, where applicable, have been identified.~~

RAS IMPLEMENTATION

- **RAS Logic** – ~~The e~~~~The~~ implementation of RAS logic appropriately correlates desired actions (outputs) with System events and conditions (inputs).
 - **Appropriate Timing** – ~~The~~~~The~~ timing of RAS action(s) is appropriate to its System performance objectives.
 - **Single Failure Expectations** – ~~A~~~~A~~ single component failure in a RAS does not prevent the BES from meeting the same performance requirements as those required for the System events and conditions for which the RAS was designed.
 - **Testing and Maintenance** – ~~The~~~~The~~ RAS design facilitates periodic testing and maintenance.
 - **RAS Arming** – ~~The~~~~The~~ mechanism or procedure by which the RAS is armed is clearly described, and is appropriate for reliable arming and operation of the RAS for the System conditions and events for which it is designed to operate.
 - **Redundancy – RAS** – ~~RAS~~ automatic arming, if applicable, has the same degree of redundancy as the RAS itself.
- RAS retirement reviews may use an abbreviated format that concentrates on the Planning justifications describing why the RAS is no longer needed. Implementation issues will seldom require removal review.

ERCOT Nodal Operating Guides

11.2 Special Protection System

- (1) Special Protection Systems (SPSs) are protective relay systems designed to detect abnormal ERCOT System conditions and take pre-planned corrective actions to maintain a secure system.
- (2) In addition to the requirements in the Protocols and applicable North American Electric Reliability Corporation (NERC) Reliability Standards, SPSs shall also meet the following requirements:
 - (a) The SPS owner shall coordinate the design and implementation of the SPS with the owners and operators of Facilities included in the SPS, including but not limited to Generation Resources, Transmission Service Providers (TSPs) and Direct Current Ties (DC Ties);
 - (b) The SPS shall be automatically armed when appropriate;
 - (c) The SPS shall not operate unnecessarily. To avoid unnecessary SPS operation, the SPS owner may provide a Real-Time status indication to the owner of any Generation Resource controlled by the SPS to show when the flow on one or more of the SPS monitored Facilities exceeds 90% of the flow necessary to arm the SPS. The cost necessary to provide such status indication shall be the responsibility of the SPS owner;
 - (d) The status indication of any automatic or manual arming/activation or operation of the SPS shall be provided as Supervisory Control and Data Acquisition (SCADA) alarm inputs to the owners of any Facility controlled by the SPS;
 - (e) When an SPS is removed from service, the SPS owner or its Designated Agent shall immediately notify ERCOT;
 - (f) When an SPS is returned to service, the SPS owner or its Designated Agent shall immediately notify ERCOT. ERCOT shall modify its reliability constraints to recognize the availability of the SPS;
 - (g) The SPS owner shall telemeter the status indication of the following items by SCADA to ERCOT for incorporation into ERCOT systems:
 - (i) Any automatic or manual arming/activation or operation of the SPS;
 - (ii) The in-service/out-of-service status of the SPS; and
 - (iii) Any additional related telemetry that already exists pertinent to the monitoring of the SPS (e.g. status indication of communications links between associated SPS equipment and the owner's control center, arming limits of associated SPS equipment).

- (h) The TSP may receive telemetry for a Resource Entity owned SPS through ERCOT or through the SPS owner, at the option of the TSP. The SPS owner, at its own cost, must provide telemetry for Resource Entity owned SPSs to the TSP upon request.
- (4) The owners of an existing, modified, or proposed SPS shall submit documentation of the SPS to ERCOT for review and compilation into an ERCOT SPS database. The documentation shall detail the design, operation, functional testing, and coordination of the SPS with other protection and control systems.
- (a) ERCOT shall conduct a review of each proposed SPS and each proposed modification to an existing SPS. Additionally, it shall conduct a review of each existing SPS at least every five years as required by changes in system conditions. Each review shall proceed according to a process and timetable documented in ERCOT Procedures and shall be posted on the Market Information System (MIS) Secure Area.
 - (b) The review of a proposed SPS shall be completed before the SPS is placed in service, unless ERCOT specifically determines that exemption of the proposed SPS from the review completion requirement is warranted. The timing of placing the SPS into service must be coordinated with and approved by ERCOT. The implementation schedule must be confirmed through submission of a Network Operations Model Change Request (NOMCR) to ERCOT.
 - (c) Existing SPSs that have already undergone at least one review shall remain in service during any subsequent review. Modifications to existing SPSs may be implemented upon approval by ERCOT.
 - (d) The process and schedule for placing an SPS into service must be consistent with documented ERCOT Procedures. The schedule must be coordinated among ERCOT and the owners of the Facility controlled by the SPS, and shall provide sufficient time to perform any necessary testing prior to its being placed in service.
 - (e) ERCOT review of an SPS shall:
 - (i) Identify any conflicts with the Protocols, NERC Reliability Standards, and these Operating Guides;
 - (ii) Evaluate and document the consequences of failure of a single component of the SPS, which would result in failure of the SPS to operate when required; and
 - (iii) Evaluate and document the consequences of misoperation, incorrect operation, or unintended operation of an SPS, when considered by itself and without any other system contingency.

- (iv) Upon completion of ERCOT's SPS review, ERCOT shall provide all results and underlying studies to the SPS owner.
- (f) If deficiencies are identified by ERCOT or other parties' comments, the SPS owner shall either submit an amended SPS proposal or withdraw the SPS proposal. The amended SPS proposal shall undergo the review process specified in item (e) above until the identified deficiencies have been resolved to the satisfaction of ERCOT.
- (g) As part of the ERCOT review, ERCOT shall notify the Steady State Working Group (SSWG), the Dynamics Working Group (DWG), and the System Protection Working Group (SPWG) of the SPS proposal, and each working group or any member of each working group may provide any comments, questions, or issues to ERCOT. ERCOT may work with the owner(s) of Facilities controlled by the SPS as necessary to address all issues.
- (h) ERCOT shall develop a method to include the SPS in Security-Constrained Economic Dispatch (SCED), Outage coordination, and Reliability Unit Commitment (RUC).
- (i) ERCOT's review shall provide an opportunity for and include consideration of comments submitted by Market Participants affected by the SPS.