Comment Report

Project Name:	2010-05.3 Phase 3 of Protection Systems: Remedial Action Schemes (RAS) | PRC-012-2
Comment Period Start Date:	2/3/2016
Comment Period End Date:	3/18/2016
Associated Ballots:	2010-05.3 Phase 3 of Protection Systems: Remedial Action Schemes PRC-012-2 AB 3 ST 2010-05.3 Phase 3 of Protection Systems: Remedial Action Schemes PRC-012-2 Non-binding Poll AB 3 NB

There were 43 sets of responses, including comments from approximately 41 different people from approximately 39 companies representing 8 of the Industry Segments as shown in the table on the following pages.

Questions

1. PRC-012-2: Requirements R4 and R6, Attachments 1 and 2, and the Supplemental Material section of the standard were modified for clarity and completeness. Do you agree with the proposed changes? If no, please provide the basis for your disagreement and an alternate proposal.

2. Implementation Plan for PRC-012-2: The drafting team revised the Implementation Plan to provide for the initial consideration of limited impact RAS, and to clarify that the initial obligation under Requirement R9 for a Reliability Coordinator that does not have a RAS database is to establish a RAS database by the effective date of PRC-012-2. Do you agree with the revised Implementation Plan? If no, please provide the basis for your disagreement and an alternate proposal.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Ben Engelby	6		ACES Standards Collaborators - PRC-012-2 Project	Ellen Watkins	ACES Power Marketing	1	SPP RE
					Shari Heino	ACES Power Marketing	1,5	Texas RE
					Ginger Mercier	ACES Power Marketing	1,3	SERC
					Mark Ringhausen	ACES Power Marketing	3,4	RF
					Caitlin Schiebel	ACES Power Marketing	4	RF
					John Shaver	ACES Power Marketing	1,4,5	WECC
					Bill Hutchison	ACES Power Marketing	1	SERC
					Scott Brame	ACES Power Marketing	3,4,5	SERC
					Chip Koloini	ACES Power Marketing	5	SPP RE
					Bill Hutchison	ACES Power Marketing	1	SERC
Southwest Power Pool, Inc. (RTO)	Charles Yeung	2	SPP RE	SRC-ISONE	Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					Ben Li	Southwest Power Pool, Inc. (RTO)	2	NPCC
					Ali Miremadi	Southwest Power Pool, Inc. (RTO)	2	WECC
					Greg Campoli	Southwest Power Pool, Inc. (RTO)	2	NPCC
					Liz Axson	Southwest Power Pool, Inc. (RTO)	2	Texas RE
					Lori Spence	Southwest Power Pool, Inc. (RTO)	2	MRO
					Mark Holman	Southwest Power Pool, Inc. (RTO)	2	RF

Public Service Enterprise Group	Christy Koncz	1,3,5,6	NPCC,RF	PSEG	Tim Kucey	Public Service Enterprise Group	5	RF
					Karla Jara	Public Service Enterprise Group	6	RF
					Joseph Smith	Public Service Enterprise Group	1	RF
					Jeffrey Mueller	Public Service Enterprise Group	3	RF
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
SERC Reliability Corporation	David Greene	10	SERC	SERC DRS	Mei Li	SERC Reliability Corporation	1	SERC
					Zakia El Omari	SERC Reliability Corporation	1	SERC
					Wade Richards	SERC Reliability Corporation	1	SERC
					Bob Jones	SERC Reliability Corporation	1	SERC
					John O'Connor	SERC Reliability Corporation	1	SERC
					John Sullivan	SERC Reliability Corporation	1	SERC
					Tom Cain	SERC Reliability Corporation	1	SERC
					Venkat Kolluri	SERC Reliability Corporation	1	SERC
MRO	Emily Rousseau	1,2,3,4,5,6	MRO	MRO-NERC Standards Review Forum (NSRF)	Joe Depoorter	MRO	3,4,5,6	MRO
					Chuck Lawrence	MRO	1	MRO
					Chuck Wicklund	MRO	1,3,5	MRO

					Dave Rudolph	MRO	1,3,5,6	MRO
					Kayleigh Wilkerson	MRO	1,3,5,6	MRO
					Jodi Jenson	MRO	1,6	MRO
					Larry Heckert	MRO	4	MRO
					Mahmood Safi	MRO	1,3,5,6	MRO
					Shannon Weaver	MRO	2	MRO
					Mike Brytowski	MRO	1,3,5,6	MRO
					Brad Perrett	MRO	1,5	MRO
					Scott Nickels	MRO	4	MRO
					Terry Harbour	MRO	1,3,5,6	MRO
					Tom Breene	MRO	3,4,5,6	MRO
					Tony Eddleman	MRO	1,3,5	MRO
					Amy Casucelli	MRO	1,3,5,6	MRO
Seattle City Light	Ginette Lacasse	1,3,4,5,6	WECC	Seattle City Light Ballot Body	Pawel Krupa	Seattle City Light	1	WECC
					Dana Wheelock	Seattle City Light	3	WECC
					Hao Li	Seattle City Light	4	WECC
					Bud (Charles) Freeman	Seattle City Light	6	WECC
					Mike haynes	Seattle City Light	5	WECC
					Michael Watkins	Seattle City Light	1,3,4	WECC
					Faz Kasraie	Seattle City Light	5	WECC
					John Clark	Seattle City Light	6	WECC
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Robert A. Schaffeld	Southern Company - Southern Company Services, Inc.	1	SERC
					R. Scott Moore	Southern Company - Southern Company Services, Inc.	3	SERC

					William D. Shultz	Southern Company - Southern Company Services, Inc.	5	SERC
					John J. Ciza	Southern Company - Southern Company Services, Inc.	6	SERC
Dominion - Dominion Resources, Inc.	Randi Heise	5		Dominion - RCS	Larry Nash	Dominion - Dominion Resources, Inc.	1	SERC
					Louis Slade	Dominion - Dominion Resources, Inc.	6	SERC
					Connie Lowe	Dominion - Dominion Resources, Inc.	3	RF
					Randi Heise	Dominion - Dominion Resources, Inc.	5	NPCC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7	NPCC	RSC No HQ and Dominion	Paul Malozewski	Northeast Power Coordinating Council	1	NPCC
					Guy Zito	Northeast Power Coordinating Council	NA - Not Applicable	NPCC
					Brian Shanahan	Northeast Power Coordinating Council	1	NPCC
					Rob Vance	Northeast Power Coordinating Council	1	NPCC
					Mark J. Kenny	Northeast Power Coordinating Council	1	NPCC
					Gregory A. Campoli	Northeast Power	2	NPCC

	Coordinating Council		
Randy MacDonald	Northeast Power Coordinating Council	2	NPCC
Wayne Sipperly	Northeast Power Coordinating Council	4	NPCC
David Ramkalawan	Northeast Power Coordinating Council	4	NPCC
Glen Smith	Northeast Power Coordinating Council	4	NPCC
Brian O'Boyle	Northeast Power Coordinating Council	5	NPCC
Brian Robinson	Northeast Power Coordinating Council	5	NPCC
Bruce Metruck	Northeast Power Coordinating Council	6	NPCC
Alan Adamson	Northeast Power Coordinating Council	7	NPCC
Michael Jones	Northeast Power Coordinating Council	3	NPCC
Michael Forte	Northeast Power Coordinating Council	1	NPCC
Kelly Silver	Northeast Power Coordinating Council	3	NPCC

					Brian O'Boyle	Northeast Power Coordinating Council	5	NPCC
					Edward Bedder	Northeast Power Coordinating Council	1	NPCC
					David Burke	Northeast Power Coordinating Council	3	NPCC
					Peter Yost	Northeast Power Coordinating Council	4	NPCC
					Helen Lainis	Northeast Power Coordinating Council	2	NPCC
					Michele Tondalo	Northeast Power Coordinating Council	1	NPCC
					Kathleen Goodman	Northeast Power Coordinating Council	2	NPCC
					Silvia Parada Mitchell	Northeast Power Coordinating Council	4	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					Jason Smith	Southwest Power Pool, Inc. (RTO)	2	SPP RE
					Patrick McPhail	Southwest Power Pool, Inc. (RTO)	1	SPP RE
					Robert Hirchak	Southwest Power Pool, Inc. (RTO)	1,3,5,6	SPP RE
					Jamison Cawley	Southwest Power Pool, Inc. (RTO)	1,3,5	MRO

					Greg Hill	Southwest Power Pool, Inc. (RTO)	1,3,5	MRO

1. PRC-012-2: Requirements R4 and R6, Attachments 1 and 2, and the Supplemental Material section of the standard were modified for clarity and completeness. Do you agree with the proposed changes? If no, please provide the basis for your disagreement and an alternate proposal.

Barbara Kedrowski - WEC Energy Group, Inc. - 3,4,5,6 - RF

Answer	No
Document Name	

Comment

We object to Generator Owners having a primary role in this standard. The nature of a RAS is not to protect individual generators, for these must have adequate protection for faults or abnormal operating situations. The RAS is typically designed to maintain the reliability of a significant area of the overall power system. As such, the Transmission Owner is the best entity to ensure that RAS are employed correctly. Unlike the GO, the TO has the "wide-area" scope of monitoring and system responsibility.

The draft standard is deficient due to the patchwork nature of responsibility for a RAS, especially when there are multiple Owners of portions of the RAS. There needs to be a single RAS Owner that has overall responsibility for ensuring the requirements of PRC -01 should be a Transmission Owner, not a Generator Owner. The TO (RAS Owner) should take the lead in developing the data needed for requirements R1 and R3, with the other RAS entities being required to provide data and equipment modifications as needed. Requirements R5 through R8 should apply to the RAS-Owner, not the RAS entities. The RAS Owner should be the point of contact with the Planning Coordinator/Reliability Coordinator, with the RAS entities having responsibility to collaborate with the RAS Owner as needed.

Likes 1	U.S. Bureau of Reclamation, 5, Doot Erika
Dislikes 0	

Response

Daniel Mason - City and County of San Francisco - 5

Answer	No
Document Name	

Comment

The Standards identifies a RAS-entity as "the Transmission Owner, Generator Owner, or Distribution Provider that owns all or part of a RAS". In some cases this "part" could be as limited as a sensing device providing input to another entity's RAS logic and interupting devices. For those RAS-entities that find themselves in that situation, providing the information identified in Attachments 1 and 2 is not appropriate. The Standard should clear up reporting responsibilities for such minor RAS-entities, perhaps by employ the concept of a "RAS Reporting Agent" for each RAS.

Likes 0	
Dislikes 0	

Response

Gul Khan - Gul Khan	
Answer	No
Document Name	
Comment	
Oncor does not currently provide the documents mentioned on page 21 of the PRC-012-2 draft 3 standard bullet # 1. We can provide a simple map of where a RAS will be located but if we are being requested to provide relay functional drawings or detailed 3 line schematics we won't have those drawings developed until the RAS is approved. Additionally even if we have the documents and do send it to ERCOT, we have a confidentiality concern as these files will get posted in a public information database. We have touched base with our RC, ERCOT, and they agree that the process we are doing today is satisfactory and is working. Hence we do not see a need to provide the documentation in attachment 1. The additional information should be optional.	
Likes 0	
Dislikes 0	
Response	
Diana McMahon - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
SRP appreciates the efforts of the SDT and recommends the removal of the language in the attachments that refers to a "checklist". Initial drafts of the attachments were checklists. What is presented cannot be described as a "checklist". SRP believes this language will create confusion. SRP further recommends removing the definition for "limited impact" from the footer of the attachment. If this is to be a definition, it should be defined in the NERC Glossary of Terms. SRP recommends the removal of the definition for "Functionally Modified" from the footer of the documents. Capitalized terms are to be part of the NERC Glossary of Terms and should not be located outside of that body of work.	
Likes 0	
Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	No
Document Name	

Comment
AZPS appreciates the efforts of the Standard Drafting Team (SDT) to date and makes the following comments: The materials state that a limited impact RAS is “determined by the RC”. AZPS suggests modifying the language to “…limited impact RAS as determined by the RC based on predefined regionally appropriate criteria.” An RC's determination of whether a RAS is limited impact should include an evaluation of the potential impacts of the RAS and should reference pre-defined regionally appropriate criteria defined through a regionally accepted process (e.g. via the RASRC in WECC). The Technical Justification section directed to Limited Impact states, “The reviewing RC is the sole arbiter for determining whether a RAS qualifies for the limited impact designation.” While not in direct conflict, AZPS believes that some entities may misinterpret the modified language as limiting the “The RC from requesting assistance in RAS reviews from other parties such as the PC(s) or regional technical groups (e.g., Regional Entities)” as provided for earlier in the document. AZPS requests that the “sole arbiter” sentence be clarified to address this concern. R4.1.3 is currently amended to state “for limited impact RAS, the inadvertent operation of the RAS or the failure of the RAS to operate does not cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations.” The word “contribute” should be removed because it reduces clarity to the standard. The term “contribute” is too broad and creates challenges to precisely evaluate. AZPS appreciates the DT addressing the concern of cases where a RAS crosses one or more RC Area boundaries, each affected RC is responsible for conducting either individual reviews or participating in a coordinated review by adding language in the appropriate rational and Supplemental Material sections. AZPS requests the SDT consider if this information would be more impactful as a footnote to the requirements themselves.

Likes 0	
Dislikes 0	

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body	
Answer	No
Document Name	Project 2010-05 3 PRC-012-2L RAS Seattle City Light Comments Ballot 2016 March 16.pdf

Comment
Need to clarify roles and responsibilities for those RAS that are multi-jurisdictional. See Attached comments

Likes 0	
Dislikes 0	

Response

Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	
Answer	No
Document Name	PSEG Comments_2010-05.3_3-17-2016.doc

Comment

Requirement 1 – There are no clear lines of responsibility for jointly owned RASs.

The concept of a RAS-entity causes RAS-entity causes confusion for entities that have joint ownership of a RAS. While the SDT recognizes this issue by stating: " Ideally, when there is more than one RAS entity to the RAS -entities w Attachment 1to the reviewing RC". While PSEG agrees with the intent of this statement, it is included in the "Rationale" section of the draft standard and therefore that language will not be incorporated into the final standard. Furthermore, PSEG believes that PSEG that the language of R1 would still require each RAS entity to submit all information in Attachment 1to the Reliability Coordinator, which is inconsistent with the Paragraph 81 effort and the Reliability Assurance Initiative. PSEG believes such intent could be incorporated in to R1 as follows:

R1. Prior to placing a new or functionally modified RAS in the information identified in Attachment 1 for review to the Reliability Coordinator(s) where the RAS is located. If there are multiple RAS-entities, the entities may delegate a single mutually agreeable RAS-entity to submit Attachment 1 on their behalf.

PSEG wishes to note that such language would not be useful in situations where the one or more of the RAS-entities that jointly own a RAS do not want to cooperate or cannot agree upon a single lead entity. Additionally, PSEG believes that a single entity (either the Reliability Coordinator or the Planning Coordinator) should be responsible for coordinating the RAS entities.

Attachment 1 – Attachment 1 should have defined roles for the Planning Coordinator (PC) or Transmission Planner (TP).

Since the requirement for new and revised remedial action schemes are likely to be initiated by the results of Transmission system planning performance assessments done by the TP or PC in compliance with TPL-001-4, one of those entities would be best suited to perform many of the activities listed under section II of Attachment 1.

Furthermore, the technical studies that are required by Attachment 1 should not be performed individually by each RAS-entity because they do not have the skills or tools available to perform such analyses. For example, if an independent generator is asked by its RC to implement a run-back scheme to resolve a stability issue, it is unlikely that that entity would have to tools available to provide the information required under Attachment 1, item II.6.

Rather, PSEG recommends that the RAS-entities' PC or (TP) conduct the assessment of the System performance of a proposed new, modified, or retired RAS. Under this construct a RAS-entity implementing a new, modified, or retired RAS would submit an application under R1 containing general information as well as details concerning the proposed components and logic of the RAS to its TP or PC and to other RAS-entities that would participate in the RAS The PC or TP in turn would conduct the assessment of the proposed RAS to determine if the proposed RAS resolves the System performance issues, and forward that information to the RC for consideration under Requirement 2.

Likes 2	Pragna Pulusani, N/A, Pulusani Pragna; PSEG - PSEG Energy Resources and Trade LLC, 6, Jara Karla
Dislikes 0	

Response

Greg Davis - Greg Davis

Answer	No
Document Name	

Comment

GTC Background:

There are multiple registered Planning Coordinators and jointly shared transmission system in GTC's Planning Area and it is important for each PC in the area to be notified prior to placing new or functionally modified RAS in-service or retiring an existing RAS. Equally as important, is for each PC in the area to be notified if CAP actions or timetables change when the CAP is completed pursuant to CAPs developed for R6. GTC's proposed considerations listed below are focused on mitigating operational and compliance risks associated with awareness and knowledge of new or functionally modified RAS where there are multiple registered PCs in a common RC Area.

R7.3:

Although R4.2 requires each impacted TP and PCs to be notified of results of a RAS evaluation, there is not a similar method for any impacted TP and/or PC to be notified in which a RAS was evaluated with identified deficiencies pursuant to CAPs developed for R6; nor when or if CAP is implemented in a timely manner or if timetables change. We propose including the phrase "and Planning Coordinators within the RAS-entity's area" in R7.3, which would read as follows: "Notify each reviewing Reliability Coordinator and Planning Coordinators within the RAS-entity's area, if CAP actions or timetables change and when the CAP is completed."

R9:

Even though it seems implied in R9 that the RAS database containing all pertinent data will be made available to impacted PCs and/or TPs in the RCs area, it is unclear. GTC proposes the following new requirement to compliment the obligations of the Planning Coordinator under requirement R4 if the aforementioned proposed changes to R7.3 are not adopted by the SDT.

R10 (proposed new requirement): Each Reliability Coordinator shall provide each Planning Coordinator in their Reliability Coordinator area a copy of the RAS database maintained in accordance with R9, at least once every twelve full calendar months.

R4.1.5:

Since a RAS is only required when the performance requirements of TPL-001-4 will not be met, is R4.1.5 essentially mandating redundancy for all RAS components? What does a single component failure constitute under Requirement R 4.1.5?

Clarification of limited impact RAS:

SERC DRS suggests a revision as to what constitutes a limited impact RAS. Currently, the language in the standard suggests that an RAS considered to be limited impact cannot:

"cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations"

We suggest revising the above language by inserting the term "widespread" before angular instability. Angular instability could be experienced by just one generating unit going out of sync. A single generating unit becoming unstable is not indicative of an unstable or unreliable BES, and we do not believe that this should remove an RAS from limited impact consideration.

Likes 0	

Dislikes 0	

Response

Ben Engelby - ACES Power Marketing - 6, Group Name ACES Standards Collaborators - PRC-012-2 Project	
Answer	No
Document Name	

Comment

1. RAS-entity causes confusion for entities that have joint ownership of a RAS. We recommend the SDT develop guidance to support the requirements and expectations for joint owners to meet compliance. For RAS with multiple RAS-entities, who is responsible for overall coordination to assure complete and consistent data submittals in order to meet compliance with this standard?
2. For R2, we remain concerned by the term “mutually agreeable” and how it will be applied.
3. Why did the SDT give the RC the authority to determine “limited impact” RAS without providing objective criteria or guidelines? The SDT cited Local Area Protection Scheme (LAPS) in WECC and the Type 3 designation in NPCC. What about the other regions? There should be a specific set of parameters for the RC to make a decision. We suggest developing continent-wide criteria for determining limited impact RAS and not referring to only two regional approaches.
4. Why does the SDT include “limited impact” RAS as being applicable to the standard? If it has a limited impact, then it should not apply at all. This proposal by the SDT is contrary to the past two years of NERC’s RAI and RBR initiatives focusing on HIGH RISK activities. By definition, “limited impact” should not matter for BES reliability. The limited impact designation creates unnecessary compliance burdens without a clear benefit to increased reliability of the BES.

Likes 0	
Dislikes 0	

Response

Teresa Czyz - Oglethorpe Power Corporation - 5	
Answer	No
Document Name	

Comment

OPC agrees with GTC's comments:

There are multiple registered Planning Coordinators and jointly shared transmission system in GTC’s Planning Area and it is important for each PC in the area to be notified prior to placing new or functionally modified RAS in-service or retiring an existing RAS. Equally as important, is for each PC in the area to be notified if CAP actions or timetables change when the CAP is completed pursuant to CAPs developed for R6. GTC’s proposed considerations listed below are focused on mitigating operational and compliance risks associated with awareness and knowledge of new or functionally modified RAS where there are multiple registered PCs in a common RC Area.

R7.3:

Although R4.2 requires each impacted TP and PCs to be notified of results of a RAS evaluation, there is not a similar method for any impacted TP and/or PC to be notified in which a RAS was evaluated with identified deficiencies pursuant to CAPs developed for R6; nor when or if CAP is implemented in a timely manner or if timetables change. We propose including the phrase “and Planning Coordinators within the RAS-

entity's[JSS1] area" in R7.3, which would read as follows: "Notify each reviewing Reliability Coordinator and Planning Coordinators within the RAS-entity's area, if CAP actions or timetables change and when the CAP is completed."

R9:

Even though it seems implied in R9 that the RAS database containing all pertinent data will be made available to impacted PCs and/or TPs in the RCs area, it is unclear. GTC proposes the following new requirement to compliment the obligations of the Planning Coordinator under requirement R4 if the aforementioned proposed changes to R7.3 are not adopted by the SDT.

R10 (proposed new requirement): Each Reliability Coordinator shall provide each Planning Coordinator in their Reliability Coordinator area a copy of the RAS database maintained in accordance with R9, at least once every twelve full calendar months.

R4.1.5:

Since a RAS is only required when the performance requirements of TPL-001-4 will not be met, is R4.1.5 essentially mandating redundancy for all RAS components? What does a single component failure constitute under Requirement R 4.1.5?

Clarification of limited impact RAS:

SERC DRS suggests a revision as to what constitutes a limited impact RAS. Currently, the language in the standard suggests that an RAS considered to be limited impact cannot:

"cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations"

We suggest revising the above language by inserting the term "widespread" before angular instability. Angular instability could be experienced by just one generating unit going out of sync. A single generating unit becoming unstable is not indicative of an unstable or unreliable BES, and we do not believe that this should remove an RAS from limited impact consideration.

Likes 0	
Dislikes 0	

Response

Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1

Answer	No
Document Name	

Comment

Requirement 4 of the standard puts the burden of performing the studies on the PC. PNM as a registered PA/PC doesn't contest the assignment of the requirement to the PC; however, the standard doesn't guarantee that the PC will be provided with the data required to perform the assessment. PNM proposes adding a requirement for the RAS entity to provide data required to assess the RAS within 30 calendar days of receiving approval from the RC

so that the PC can obtain the information required to adequately assess each scheme every five full calendar years. The information provided to the RC in R5.2, R6, R7.3 would impact the R4 assessment; therefore, the PC should also be receiving this information.

Likes 0	
Dislikes 0	

Response

Jared Shakespeare - Peak Reliability - 1

Answer	No
Document Name	

Comment

What is the required evaluation for the PC in R4? For the RC it is clear to follow Attachment 2 for the evaluation but the PC in R4 does not have any explicit evaluation requirement. We recommend adding language that describes the PC adhering at a minimum, but not limited to, Attachment 2 for their 5 year evaluation.

Both R4.1.4 and Attachment 1, section III, item 4 use the same language, “a single component failure in the RAS, when the RAS is intended to operate does not prevent the BES from meeting the same performance requirements (defined in Reliability Standard TPL -001 required for the events and conditions for which the RAS is designed.” Though similar language is used in the currently effective set of reliability standards, it is confusing and unclear. We recommend providing examples in an application guideline as part of the standard itself that might help the reader understand the meaning of and intent behind this language.

Likes 0	
Dislikes 0	

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer	No
Document Name	

Comment

Duke Energy suggests a revision as to what constitutes a limited impact RAS. Currently, the language in the standard suggests that an RAS considered to be limited impact cannot:

“cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations”

We suggest revising the above language by inserting the term “widespread” before angular instability. Angular instability could be experienced by just one generating unit going out of sync. A single generating unit becoming unstable is not indicative of an unstable or unreliable BES, and we do not believe that this should remove an RAS from limited impact consideration.

Duke Energy also reiterates its concern regarding the compliance implications of potentially requiring the RC to be responsible for the technical correctness of an RAS-entity’s information it provides in Attachment 1. An RC should only be held responsible for the “wide area purview” or conceptual appropriateness of a new or functionally modified RAS, and not be held responsible for potential mistakes made by the RAS-entity during the process.

Likes 0	
Dislikes 0	

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer	No
Document Name	

Comment

Would suggest the drafting team develop a Standards Authorization Request (SAR) for the term ‘limited impact’ and propose the term be added to the NERC Glossary and Rules of Procedure (RoP) to promote consistency and clarity. During our current evaluation of this draft of the Standard and RSAW, we are concerned that the Rationale Box information (page 5 of the Standard-next to the sentence) is not consistent with the Requirement R4 sub-part 4.1.3. Another concern is that we feel the sub-part states the proposed definition of ‘limited impact’ twice. At the first use, the term ‘limited impact’ is stated with a footnote-4 “A RAS designated as ‘limited impact’ cannot, by inadvertent operation or failure to operate, cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations” then this same information is stated again after the term. We suggest the drafting team use some different language besides “verify the limited impact designation remains applicable” which was stated in the Rationale Box in order to make it clear just what the SDT intends the reviewer to do.

Additionally, we interpret that in the RSAW (note to Auditor-Section Requirement R4) there is an attempt to define the term ‘Inadvertent operation’. If this is the case, we would suggest the review panel/drafting team should develop a SAR for that particular term and propose that it be included in the NERC Glossary of Terms and Rules of Procedure (RoP) as well as including that term in the Standard again to promote consistency and clarity.

For Requirement R6, we have a concern that the translation of the Rationale and Technical data (in the Standard) and the Note to Auditor information (in the RSAW) may become lost. As we have evaluated both documents, it seems more evident that the Rationale and Technical information needs to be included in the RSAW. This information has been included in the Standard to help provide a solid foundation to each Requirement to help support the auditing process. However, this information isn’t included in the RSAW which leads to potential inconsistency in the auditing process. We feel that both documents need to contain the same information in order to be properly aligned.

Finally, our last concern would be having all maintenance requirements implemented into one document. Currently, we agree that Requirement R8 pertains to performing maintenance associated with Functional Testing as well as verifying proper operation of non-protection system components (system maintenance). However, we suggest moving Requirement R8 into the PRC-005 Standard for consistency in reference to maintenance requirements.

Likes 0	
Dislikes 0	

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	No
Document Name	
Comment	

The list of qualifications for the designation of limited impact states that a limited impact RAS cannot cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations. The term angular instability needs to be clarified further. Currently it implies that if the RAS was installed to prevent a 40 MW generator from becoming unstable, then it cannot be designated as limited impact. The term should be qualified as follows: system angular instability. This would give the RC the leeway to judge that a small unit going unstable would not negate the designation limited impact.

Likes 0	
Dislikes 0	
Response	

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	

ERCOT is supportive of the “limited impact” RAS designation, and is also supportive of a periodic evaluation of RAS to determine if these still qualify for the limited impact designation. However, ERCOT disagrees with the language of requirement subpart 4.1.3.

Clarification on the intention of 4.1.3 in this context is requested. A Planning Coordinator (PC) with limited impact RAS (ex. a RAS set up to reduce BES flows by ramping down or tripping generation) should be allowed discretion to utilize screening studies as a threshold test to determine the necessity of evaluating a RAS for uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations. For limited impact RAS that only have local impacts, 4.1.3 as written requires costly and unnecessary studies. ERCOT suggests that the SDT consider imposing a MW threshold for each interconnection below which the PC would be required to conduct only a power flow study. Alternatively, ERCOT requests clarification—in either 4.1.3 itself or in the rationale—that the PC has discretion in the type of studies it can use to satisfy the evaluations required to determine if the reliability impact of the RAS has changed over time.

ERCOT also asks for clarification on the “Supporting Documentation for RAS Review” in Attachment 1. The introductory statement in Attachment 1 implies that the Reliability Coordinator (RC) has discretion in determining exactly what information it would like to receive from an RAS-entity with the statement “If an item on this list does not apply to a specific RAS, a response of “Not Applicable” for that item is appropriate.” The RAS-entity and the RC typically work together to determine what is required to approve an SPS or a RAS. The RC’s discretion in determining what information a RAS-entity must submit under Attachment 1 is sufficient for the evaluation of the RAS.

ERCOT suggests the SDT make the RC’s discretion explicit through the following language modification to the Attachment 1 introduction:

"The following checklist identifies important Remedial Action Scheme (RAS) information for each new or functionally modified RAS that the RAS-entity must document and provide to the reviewing Reliability Coordinator(s) (RC), *as required by the RAS-entity's Reliability Coordinator*"

Likes 0	
Dislikes 0	

Response

Andrew Pusztai - American Transmission Company, LLC - 1

Answer	No
Document Name	

Comment

ATC has several recommendations for improvement or clarification on the draft Standard, for consideration by the SDT as listed below:

- R4.1.3 and R4.1.4 – These requirements refer to 'single component malfunction' and 'single component failure' respectively. However, the standard does not contain any identification or clarification of which types of components must be included and which may be excluded in RAS evaluations. This deficiency could be addressed by including text in the Supplemental Material section under Requirement 4 that the drafting team developed for a response in its Consideration of Comments for Draft 1 of PRC-012-2.

"An exhaustive list of components is not practical given the variety that could be applied in RAS design and implementation. See Item 4a in the Implementation Section of Attachment 1 in the Supplemental Material section for typical RAS components for which redundancy may be considered. The RAS ~~into service and which were~~ *already present in the system before a RAS was installed. The RC will make the final determination regarding which components should be regarded as RAS components during its review".*

- R5 – This requirement does not obligate RAS-entities to provide their results of the operational performance analysis of a RAS event to impacted Transmission Planners and Planning Coordinators. However, this action should be proposed in the Supplemental Material section.

- R6 – This requirement does not obligate RAS-entities to provide their Corrective Action Plans to impacted Transmission Planners and Planning Coordinators. However, this action should be proposed in the Supplemental Material section.

- R8 - The purpose of Version 6 of PRC-005 was to consolidate all maintenance and testing of relays under one Standard. Having RAS testing within PRC-012-2 would be contrary to that end. ATC proposes to address this concern as follows:

Functional testing of RAS (as stated in Requirement 8 of PRC-012-2) is a maintenance and testing activity that would be better included in the PRC-005 standard. The present PRC-005-6 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, the current Reliability Standard PRC-005-6 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-005-6, rather than be an outlying maintenance requirement located in the PRC-012-2 Standard.

If the requirement is not removed and placed in PRC-005 standard, then we suggest that wording be added to R8 to refer the entity to meet the maintenance and testing interval obligations in the latest version of the PRC-005 standard.

Likes 0	
Dislikes 0	

Response

Douglas Webb - Douglas Webb

Answer	No
Document Name	

Comment

Kansas City Power & Light Company appreciates this opportunity to share its comments regarding concerns the company has with the proposed revisions to the Standard.

As used in the proposed revisions to Standard PRC-012-2, the term “limited impact” creates an ambiguous enforceable provision and needs to be a defined NERC Glossary term to establish a clear compliance threshold.

The Standard Drafting Team (SDT) is empowered by the NERC Standards Process Manual (SPM) to “…propose to add, modify, or retire a defined term in conjunction with the work it is already performing.” SPM, Sec. 5 Preamble. We respectfully request the SDT exercise that authority to define “limited impact” for the following reasons.

“Limited impact” establishes an enforceable provision: The proposed revisions use “limited impact” in the language of the Requirements and attachments to the Standard that are incorporated by reference. By the regular use of the term, and the context in which it is used, a conclusion is easily drawn: The term is material to the Standard and required to evaluate compliance and, ultimately, enforcement of the Standard.

“Limited impact” creates an uncertain compliance obligation: The term “limited impact” is undefined and ambiguous and, as such, creates uncertainty in an entity’s compliance obligation. The word “limited” suggests a range of values. When used with “impact,” the range of values is used to affect the determination of the degree of impact. The proposed revisions to the Standard seek to establish the range of values in multiple ways. First, by referencing information found in the stated underlying source of the term, WECC and NPCC classification schemes; secondly, offering an explanation what is intended by the term; third, explaining what the term is not intended to reflect; and, lastly, a lengthy discourse on the term, as found in the Attachments. Taken together, all the information may seem to provide guidance as to the meaning of the term, “limited impact,” but in the end the term remains undefined and creates a compliance obligation that is unclear and promotes a spectrum of interpretations as to what values fall within the “limited” range.

Policy promotes relevant Regional Defined Terms be considered for the NERC Glossary Term: The NERC Standards Process Manual (SPM) states:

“Some NERC Regional Entities have defined terms that have been approved for use in Regional Reliability Standards, and where the drafting team agrees with a term already defined by a Regional Entity, the same definition should be adopted if needed to support a NERC Reliability Standard.” SPM Sec. 5.1.

The proposed revisions to the Standard provide that the source of the term “limited impact” is taken from the WECC and NPCC classification schemes. Whether the term is a regionally defined term by WECC and NPCC or not, the spirit of the SPM is to apply terms equally, that if a term is used by

Regional Entities in a North American Standard, then it is appropriate for the term be considered for adoption as a defined term to support that Standard.

Below is a Catalog of the Term "limited impact" as used in Proposed PRC-012-2 Standard

The Standard's language uses "limited impact" in Requirements R4 and R8, and multiple times in the three attachments that are incorporated by reference in the Standard.

WECC and NPCC Classification Schemes—R4 Rationale cites to the WECC and NPCC classification schemes as how the "…limited impact designation is modeled…;" *Technical Justification* for the term "limited impact" states, "Because the drafting team modeled the limited impact designation after the WECC and NPCC classifications…"

Description of what the term, "limited impact," is not—R4.1.3. Footnote to "limited impact." See also Att. 1, Sec. I.4.g Footnote to "limited impact"; Att. 2, Sec. I.6 Footnote to "limited impact"; Att. 3, Sec. 7 Footnote to "limited impact"; *Technical Justifications for Attachment 1 Content Supporting Documentation for RAS Review*, Sec. I.4.g Footnote to "limited impact"; *Technical Justifications for Attachment 3 Content*, Sec. 7 Footnote to "limited impact."

"Limited impact" Citations in Standard—The use of the term "limited impact" in R4; R8; Att. 1, Sec. I.4.g; Att. 1, Sec. II.5; Att. 1, Sec. II.6; Att. 1, Sec. III.4; Att. 2, Sec. I.6; Att. 2, Sec. I.7; Att. 2, Sec. II.2; Att. 3, Sec. 7; *Supplemental Material*, R4, R8; *Technical Justifications for Attachment 1 Content Supporting Documentation for RAS Review*, Sec. I.4.g, Sec. II.5, Sec. II.6, Sec. III.4; and *Technical Justifications for Attachment 3 Content*, Sec. 7.

Likes 0	
Dislikes 0	

Response

Oshani Pathirane - Oshani Pathirane

Answer	No
Document Name	

Comment

Comment 1 - R4.1.5 - In TPL-001-4, loss of a single line due to a fault is "Single Contingency" (Category P1), but the failure of a breaker or protection relay following that single contingency is recognized as "Multiple Contingency" (Category P4 and P5) and has a different performance requirement compared to the initial P1 event. Similarly, the system performance following a RAS failure to operate after an event should not be required to meet the exact same requirements as those for the original event.

Therefore, we suggest deleting 4.1.5 and instead revising 4.1.4 to say "Except for limited impact RAS, the possible inadvertent operation of the RAS, resulting from any single RAS component malfunction, or a single component failure in the RAS, when the RAS is intended to operate, satisfies all of the following:"

Comment 2 - R5.1 – The wording "*participate*" which is used in the R5.1 does not define accountability or a definite action. For consistency, we suggest using verbiage similar to that used in PRC-004-4's description of accountabilities in the case of owning Shared Protection Systems.

Comment 3 - R5.1.3 & R5.1.4 are related to performance of RAS and its impact on BES system. This assessment is better suitable for the PC or RC to conduct

Comment 4 – In R5.2, in case of a RAS being owned by more than one RAS-Entity, it is unclear which RAS-Entity is accountable to communicate with the RC and maintain evidence. The requirement needs to clearly identify who is accountable for what, similarly to how PRC-004-4 describes accountabilities in case of Shared Protection System.

Comment 5 – Similar to R5, the wording "*participate*" used in R6 does not define accountability or a definite action. For consistency, we suggest using verbiage similar to that used in PRC-004-4's description of accountabilities in the case of owning Shared Protection Systems.

Comment 6 - Similar to comment R5 above, R6 does not clearly define accountabilities in the case of a RAS being owned by more than one RAS-Entity. In such case, which Entity is accountable to communicate with the RC and maintain evidences?

Comment 7 – It is unclear from the wording whether the RAS-entity would "Participate in analyzing the RAS operational performance" with the RC, or only mutually agree upon a schedule for such activity with the RC.

Comment 8 - R8 is vague and subject to interpretation. There are references in the supplemental material that suggest maintenance checking all of the logic in a PLC on a periodic basis is required and yet in PRC-005, it's clear that there is no need to perform periodic maintenance on relay logic. For monitored components, such as microprocessor relays, the "*verification of settings [as] specified*" in PRC-005 (i.e., performing a settings compare) should be sufficient rather than implying that all logic needs to be re-verified. For RAS not designated as limited-impact, R8 does not distinguish between monitored and unmonitored components of the RAS such as in PRC-005, which would allow a RAS-entity to have a 12-year maintenance interval for monitored components.

Likes 0	
Dislikes 0	

Response

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

Answer	No
Document Name	

Comment

Regarding R4:
BPA believes that limited impact RAS should not be singled out to be exempt from meeting the performance requirements.

While the level of review could be lower, BPA believes a "limited impact" RAS should still be designed such that failure or inadvertent operation of the RAS does not have an adverse impact on an adjacent TP or PC beyond the performance criteria for which the system is planned.

Additionally, regarding R2:
BPA maintains that allowing an RC up to four months to complete the RAS review is longer than necessary and not in line with current practice, which requires the information to be submitted to the RAS Reliability Subcommittee two weeks prior to the meeting where it will be reviewed and approved or disapproved. Allowing four months could delay energization of new or functionally modified RAS by 14 weeks.

BPA also remains concerned by the term "mutually agreeable" and how it will be applied.

Likes 0	
Dislikes 0	

Response

Nicolas Turcotte - Hydro-Qu?bec TransEnergie - 1	
Answer	No
Document Name	RS--3-15-16--2010-05 3_PRC-012-2_Unofficial_Comment_Form_2016-03-18- Final.docx

Comment

As a general comment, HQT is in the view that PRC-012-2 should not address the details of how RAS entities should perform their analysis according to requirement R8. Each RAS entity has systems operation applicability adapted to their particular topology and some systems cannot withstand invasive actions (maintenance and testing activities) because of such topology. Therefore, PRC-012-2 requirements should allow a certain level of flexibility to this effect, which HQT has commented further below.

Regarding comments specific to the wording of PRC-012-2 requirements, Footnote 2 in Attachment 1 is a definition, and it should be treated as such. Also, the fourth bullet under footnote 2 reads “Changes to RAS logic beyond correcting existing errors” needs clarification. What are the existing errors? The RAS should not have been approved if there were errors, and if it was approved with the errors then those errors might be preventing the RAS from meeting its intended functionality. Suggest removing this bullet, and revising the second bullet to read: Changes to the logic that affects the actions the RAS is designed to initiate. The preceding is also applicable to Footnote 4 on page 25 for Attachment 2. Footnote 3 on page 23, footnote 5 on page 25, and footnote 6 on page 27 are not needed because of the first comment above regarding Requirement R4.

In addition, on page 27 in the Supplemental Material Section, shouldn’t the Planning Coordinator, because of its wide-area view be included in determining if a RAS can be designated limited impact? In the two paragraphs preceding Requirement R1 on page 29 of the Supplemental Material it should be emphasized that the actions of the limited-impact RAS do not lead to the more severe BES consequences that would preclude a RAS from being defined a limited-impact RAS. On page 34, same comment as in the preceding paragraph concerning “Changes to RAS logic beyond correcting existing errors”. On page 34 of the Supplemental Material in the third paragraph under Requirement R4, shouldn’t the Planning Coordinator, because of its wide-area view, be involved in the designation of a RAS as limited-impact?

Also, on page 45 for the Technical Justifications for Attachment 1 Content Supporting documentation for RAS Review, comments pertaining to footnote 8 the same as above for the comments regarding footnote 2.

HQT also has specific comments on requirements R5 and R8 as follows.

Firstly for NPCC, the Type ‘3’ should be written ‘III’. Also, VSL of R5 requests to ‘perform’ analysis. R5 mentioned only to ‘participate’. In the Rationale section, at R4: references to Parts 4.1.3.1-4.1.3.5 should be corrected to 4.1.4.1-4.1.5. HQT is in the opinion that Lower VSL of R7 should be High VSL because RC must be notified if CAP has changed since changes in action or timetables may require the RC to intervene to maintain reliability.

Secondly, HQT suggests to remove footnote 3 on page 23, footnote 5 on page 25, and footnote 6 on page 27 by modifying the Applicability section 4.2.1 in section 4.2 entitled Facilities by the following: ‘‘Remedial Action Schemes (RAS) not designated as “limited impact”. A RAS designated as “limited impact” cannot, by inadvertent operation or failure to operate, cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations.’’

Thirdly, regarding requirement R8, as mentioned in HQT’s general comments above, as for protection systems, invasive actions (maintenance and testing activities) may introduce a higher number of misoperations which can stress the electrical system. As recognized in PRC-005, new technology may offer the benefits to avoid this type of activities. Thus, from a reliability perspective, a RAS Entity should decide which technique is most appropriate to verify the RAS integrity according to the complexity of their design. If for some reason, a RAS entity would prefer to dynamically extract and compare the settings file of the RAS components instead of doing functional tests, it could be another acceptable method to meet the intent of requirement of R8 without doing invasive actions that could adversely affect the reliability of the system.

HQT notes that there is actually no difference made in PRC 005 for limited impact RAS components. However, HQT agrees with PRC 012-2 regarding the fact that limited impact RAS represents a low reliability risk to the BULK power system. For those RAS, HQT agrees that less stringent criteria can be applied. In PRC-005, there is no mention of limited impact RAS components, this concept should be incorporated within the standard.

Finally, in light of the above comments, HQT is of the view that the maximum allowable interval between functional tests should be twelve full calendar years for RAS that are not designated as limited impact RAS.	
Likes 0	
Dislikes 0	
Response	
Larry Heckert - Larry Heckert	
Answer	Yes
Document Name	
Comment	
Alliant Energy supports comments submitted by the MRO NERC Standards Review Forum.	
Likes 0	
Dislikes 0	
Response	
Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6	
Answer	Yes
Document Name	
Comment	
In the Supplemental Material, on p. 30 of 55 of the redlined document, please clarify what is meant by "…affected by the contingency." Specifically, is this the contingency that would require RAS operation, or is the contingency the overloading of the BES Element? Outside of the scope of the survey question -- in Measurement M5, please consider changing "…with participating RAS-entities and…" to "…with participating RAS-entities, if applicable, and…"	
Likes 0	
Dislikes 0	
Response	
David Greene - SERC Reliability Corporation - 10, Group Name SERC DRS	
Answer	Yes
Document Name	
Comment	

SERC DRS suggests a revision as to what constitutes a limited impact RAS. Currently, the language in the standard suggests that an RAS considered to be limited impact cannot:

"cause or contribute to BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations"

We suggest revising the above language by inserting the term "widespread" before angular instability. Angular instability could be experienced by just one generating unit going out of sync. A single generating unit becoming unstable is not indicative of an unstable or unreliable BES, and we do not believe that this should remove an RAS from limited impact consideration.

The comments expressed herein represent a consensus of the views of the above-named members of the SERC EC Dynamics Review Subcommittee only and should not be construed as the position of SERC Reliability Corporation, its board, or its officers.

Likes 0	
Dislikes 0	

Response

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO-NERC Standards Review Forum (NSRF)

Answer	Yes
Document Name	

Comment

However, the NSRF proposes including the following opinion in the Supplemental Material section:

R4 – This requirement refers to 'single component malfunction' and 'single component failure'. However, the standard does not contain any qualification of which types of components must be included in RAS evaluations or what entity ultimately makes the component inclusion determination. Therefore, to avoid making elaborate component inclusion qualifications or letting there be uncertainty over which entity makes the final component inclusion determination, add text to the Supplemental Material section such as, "The RC will make the final determination regarding which RAS components are included in the RAS evaluation during its review".

Likes 0	
Dislikes 0	

Response

William Temple - William Temple

Answer	Yes
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council.	
Likes 0	
Dislikes 1	Public Service Enterprise Group , 1,3,5,6, Koncz Christy
Response	
John Pearson - John Pearson	
Answer	Yes
Document Name	
Comment	
Requirement R4.1.3 includes language from the associated footnote verbatim. The language in the footnote should be deleted. The requirement also seems to define a limited impact RAS. The NERC Glossary should include the definition of a limited impact RAS.	
Likes 0	
Dislikes 0	
Response	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	
Comment	
The Bureau of Reclamation agrees with the changes proposed by the drafting team.	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No HQ and Dominion	
Answer	Yes
Document Name	

Comment
Footnote 1 in Requirement R4 is not needed as written. It just reiterates the wording of sub 4.1.3. Same applies to footnote 9 on page 46 as the wording in sub 4.1.3 pertains to the entire document. An appropriate footnote would read that NPCC Type 3 classification and the WECC LAPS classifications will be recognized as limited-impact RAS.

Likes 0	
Dislikes 0	

Response

John Fontenot - Bryan Texas Utilities - 1	
Answer	Yes
Document Name	

Comment

Likes 0	
Dislikes 0	

Response

Michael DeLoach - AEP - 3	
Answer	Yes
Document Name	

Comment

Likes 0	
Dislikes 0	

Response

Michael DeLoach - AEP - 3	
Answer	Yes
Document Name	

Comment

Likes 0	

Dislikes 0	
Response	
Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2, Group Name SRC-ISONE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Smith - Manitoba Hydro - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Allie Gavin - Allie Gavin	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
sean erickson - Western Area Power Administration - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	

Comment

Texas RE noticed the SDT did not specifically address its comments submitted on January 8, 2016. Texas RE respectfully requests the SDT to respond to its comments.

As previously stated in comments submitted on January 8, 2016, Texas RE does not agree with the provision that a RAS can be designated as "limited impact". Texas RE recommends the SDT reconsider and treat all RASes, that affect the reliability of the Bulk Electric System (BES) equally.

However, if the SDT elects to keep the limited impact designation, Texas RE is concerned the proposed criteria for determining a "limited impact" RAS is vague and ambiguous (e.g. "… BES Cascading, uncontrolled separation, angular instability, voltage instability, voltage collapse, or unacceptably damped oscillations). Absent clear criteria, the RC may designate certain RASes as limited impact that would be more properly characterized as a RAS. Because limited impact RASes are subject to reduced reliability-related considerations by the Reliability Coordinator (i.e. Attachment 2) and limited evaluation performed by the Planning Coordinator (i.e. Requirement 4), the improper characterization of RASes may lead to potential reliability gaps on the BES.

Texas RE inquires as to what the SDT used as technical basis (such as industry reports, recommendations from task forces or working groups, field studies, etc) in determining to create a requirement to designate limited impact RASes.

TPL-001-4

In Requirement R4.1.5, Texas RE is concerned the planning requirements in TPL-001-4 do not distinguish between limited impact RAS and RAS. For example under TPL-001-4, a PC must consider an operation of a RAS, including a limited impact RAS, that results in an applicable Facility Rating being exceeded. Texas RE understands planning and RAS evaluation are separate obligations for the PC with separate requirements. However, the language in R4.1.5 specifically identifying the "same performance requirements" as defined in TPL-001-4 potentially blurs these two obligations with respect to limited impact RAS. Texas RE suggests eliminating the phrase "Except for limited impact RAS" in R4.1.5 so PRC-012-2 and TPL-001-4 cannot be interpreted to potentially conflict with each other.

Degraded RAS

Texas RE submitted comments on October 5, 2015 stating its concern there is no requirement to report the degraded RAS to the RC. The SDT responded:

The status of a degraded RAS is required to be reported (in Real-time) to the Transmission Operator via PRC-001, Requirement R6, then to the RC via TOP-001-3, Requirement R8. See Phase 2 of Project 2007-06 for the mapping document from PRC-001 to other standards regarding notification of RC by TOP if a deficiency is found during testing. Consequently, it is not necessary to include a similar requirement in this standard.

Texas RE does not agree this issue is handled in the standards identified by the SDT in its response. As an initial matter, TOP-001-3 R8 does not necessarily require the TOP to inform the RC. TOP-001-3 R8 is specifically limited to Emergencies, which do not necessarily include degradation of a RAS. Does the SDT envision treating all RAS degradations as Emergencies as defined by the NERC Glossary of Terms in order to trigger the TOP-001-3 R8 reporting obligations?

TOP-001-3 also uses the term "Transmission Operator Area" which, by definition, does not necessarily include DP and GO, which are "RAS-entities", equipment if used in a RAS. This is a gap in reliability.

In addition, other related standards do not appear to require RAS-entities to report degraded RASes to the RC in all circumstances. For example, TOP-003-3 discusses having a data specification and distributing the data specification. However, this Standard does not explicitly include notification of actual degradation of a RAS to an RC or explicitly require entities to provide actual data. In particular, TOP-003-3 R3 states "Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time RAS monitoring, and Real-time Assessment." Moreover, TOP-003-3 R3 explicitly covers the "Operations Planning" Time Horizon (not Real-time or Same-Day Operations). TOP-003-3 R5 also states "Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications…". Again, under this Standard, there is no explicit requirement that entities provide the RC that is reviewing and approving the RAS the actual data regarding the "current Protection System and Special Protection System status or degradation that impacts System reliability."

Misoperations

The definition of Misoperation that becomes effective on July 1, 2016 does not include RASes. Texas RE recommends clarifying R5 by defining misoperation to align with PRC-004-4. If misoperation is not defined, entities might not do the actions outlined in R 5.1. The SCPS drafted a RAS template to describe misoperations which were never officially approved. Texas RE recommends adding a definition of misoperations for RASes in the Standard or NERC Glossary based on the SCPS RAS template and the language in R5.

Also, while reporting of Protection Systems Misoperations will be contained within the Section 1600 Data Request for PRC-004, neither PRC-012-2 nor the Section 1600 data request provides a corresponding reporting requirement for RAS misoperations to the Regional Entities or NERC. Texas RE recommends the SDT consider adding a requirement, either to PRC-012-2 or to the Section 1600 data request, for Registered Entities to report misoperations of RASes to regional entities.

Functional Testing – R8

Texas RE is concerned PRC-012-2 R8 does not address the scenario where a RAS is owned by different companies. In particular, PRC-012-2 R8, as currently drafted, does not require simultaneous testing each separately-owned component of the RAS-system simultaneously so that entities can verify that the RAS properly operates. For example, there are instances in Texas where a GO and TO own part of the same RAS. Under the current Standard language, the GO will test the receipt signal and the TO will test sending signal. However, there is no requirement for the GO and TO to coordinate the tests of their individual components to ensure that signal is sent and received. Put differently, although each individual component may be tested, there is no corresponding test of to ensure the entire RAS will operate as intended. Texas RE is concerned a reliability gap will occur if the two tests are not conducted simultaneously and in such a way the GO and TO can view the results of the test on the entire RAS.

Full Calendar Months

The SDT introduces a new term "full calendar months" that is neither defined in the Standard nor the NERC Glossary and is inconsistent with other Reliability Standards. Texas RE noticed a definition in the PRC-012-2 RSAW, but the definition should be in the NERC Glossary or within PRC-012-2 itself instead. Texas RE recommends the SDT provide the definition within the Standards process while considering other definitions already in place (such as "Calendar Year" in PRC-005-6).

Corrective Action Plan

As previously submitted on January 8, 2015, Texas RE recommends revising PRC-12-2 R7 to place at least minimal criteria around modifications to Corrective Action Plans (CAP) or corresponding CAP timetables. As currently drafted, PRC-12-2 R7 could be interpreted to permit RAS-entities to perpetually update their CAPs if "actions or timetables change" and then merely notify the RC of such changes. Texas RE recommends that the SDT consider some minimal criteria that RAS-entities must satisfy in order to update a CAP under PRC-12-2 R7.2. For instance, PRC-12-2 R7.2 could be revised to read: "Update the CAP for any reasonable changes in the required actions or implementation timetable." In turn, PRC-12-2 R7.3 could be

revised to read: “Notify each reviewing Reliability Coordinator and provide a reasoned justification for changes in CAP actions or timetables, and notify each reviewing Reliability Coordinator when the CAP is completed.”

Feedback Mechanism

Texas RE noticed there is no feedback mechanism in the current standard for PCs to incorporate RC approved RAS modifications in subsequent planning processes. Texas RE understands this might not appropriate for the scope of this project, but requests the SDT to consider this issue in future reviews of applicable standards.

Likes 0	
Dislikes 0	

Response

2. Implementation Plan for PRC-012-2: The drafting team revised the Implementation Plan to provide for the initial consideration of limited impact RAS, and to clarify that the initial obligation under Requirement R9 for a Reliability Coordinator that does not have a RAS database is to establish a RAS database by the effective date of PRC-012-2. Do you agree with the revised Implementation Plan? If no, please provide the basis for your disagreement and an alternate proposal.

Nicolas Turcotte - Hydro-Qu?bec TransEnergie - 1

Answer	No
Document Name	RS--3-15-16--2010-05 3_PRC-012-2_Unofficial_Comment_Form_2016-03-18- Final.docx

Comment

In light of the above comments, HQT is of the view that the maximum allowable interval between functional tests should be twelve full calendar years for RAS that are not designated as limited impact RAS.

Likes 0	
Dislikes 0	

Response

Douglas Webb - Douglas Webb

Answer	No
Document Name	

Comment

In consideration of our comments relating to the term “limited impact,” we are unable to support the Implementation Plan. The alternative proposal is incorporate into the Implementation Plan a future defined NERC Glossary term for “limited impact.”

Likes 0	
Dislikes 0	

Response

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

Answer	No
Document Name	

Comment

ERCOT signs on to the IRC SRC comments for Question 2. The SRC comments are as follows:

• The rationale for R2 states that RC review “minimizes the possibility of a conflict of interest that could exist because of business relationships among ….” This explanatory purpose for R2 is not needed and in fact could prove untrue as not all RCs are independent from TOs, GOs, etc.

• The R3 rationale inserts the idea of “lack of dependability”. This can be understood differently by different parties. For a hardware supplier, it can mean the equipment or technology is unreliable. And if taken to an extreme, this seems to open the path to requiring the RC to decide which generators should run based on the individual generators’ forced outage rate (dependability rate?). We suggest this phrase be stricken from the R3 explanatory.

• For R4 the limited impact designation explanation, please clarify whether the reference to regions is meant to be an example of how the SDT came to its decision for R4 or whether it is a reference of the authority of what regions can do. We believe it is the former and the language should be improved.

• The concept of 4.1.2 to “avoid adverse interactions” would seem to need some criteria for evaluating what “avoid” means. Rather than state “avoid”, we suggest this requirement to be rewritten to state: “The RAS does not adversely impact the performance of other RAS, and protection and control systems.”

· 4.1.4.4. BES voltages shall be within post tablished by the Contingency voltage lin
Transmission Planner and the Planning Coordinator. Some Planners don’t use voltage deviation criteria. This should it not be rewritten to state “BES voltages shall be within the Planning Coordinator’s voltage criteria under pre and post contingency conditions”.

Likes 0	
Dislikes 0	

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer	No
Document Name	

Comment

Implementation Plan

Texas RE recommends reducing the implementation period. This is a series of processes that already exist in some form or fashion and should not require a new construct that would take three years. In Requirement R9, the SDT indicates requirements follow “industry practice” which is a twelve month periodicity. Does the SDT contend that there are RASes in place that an RC or PC does not know about?

Texas RE recommends that the SDT *eliminate the proposed implementation period or at least shorten the proposed three-year implementation period for PRC-12-2 to six months*. Alternatively, the SDT should link the 60-full-calendar month (currently revised to “5 full calendar years”) compliance window in PRC-12-2, R4 and the six- and twelve-year compliance periods in PRC-12-2, R8 to the effective date of PRC-12-2 and not the extended date (if any) set forth in the proposed implementation plan.

The proposed PRC-12-2 establishes a process for reviewing new, functionally modified, or retiring RAS. As the SDT has recognized, failing to implement such a RAS review process could result in a significant gap in reliability. Specifically, the SDT stated in the rationale for Requirement R1 that RAS “action(s) can have a *significant impact on the reliability and integrity of the Bulk Electric System (BES)*.” Given the importance of the RAS review scheme for reliability, Texas RE believes that three years is too long to implement the process contemplated in the proposed PRC-12-2.

Review Process Timeline

Texas RE also believes that the nature of the review process itself also counsels in favor of a shorter review period. For example, PRC-12-2, R1 – R3 establishes the basic framework for RAS review. These requirements mandate that RAS-entities provide certain information regarding RAS to their respective Reliability Coordinators (RC), a minimum four full calendar month period for the RC to review this information, and then a subsequent obligation for the RAS-entity to resolve any reliability issues identified by the RC prior to installing, functionally modifying, or retiring a particular RAS. Accordingly, these requirements do not contemplate immediate changes to existing physical assets, significant internal process transformations, or other issues that could potentially justify a three-year implementation period. Rather, they largely focus solely on the exchange and review of documentation, such as one-line drawings, for each RAS that is likely already be in the RAS-entity's possession today. RAS-entities and their associated RCs should therefore be able to begin the RAS review process with only minimal lead time following the adoption of PRC-12-2. Texas RE would further note that although RCs may need additional compliance resources to perform the RAS reviews contemplated under PRC-12-2, the existing language in PRC-12-2, R2 already provides RCs and RAS-entities with the flexibility to extend the review period if necessary based on a "mutually agreed upon schedule."

A similar rationale applies to the misoperation review and correction process in PRC-12-2, R5. As the SDT notes, "[t]he correct operation of a RAS is important for maintaining the reliability and integrity of the BES. *Any incorrect operation of a RAS indicates that the RAS effectiveness and/or coordination has been compromised.*" Texas RE agrees with this statement. In light of this fact, however, Texas RE believes that RAS-entities should begin RAS operational performance assessments following a RAS failure or misoperation immediately upon adoption of PRC-12-2 in order to avoid a significant reliability gap.

If the SDT elects to retain an implementation period of any length, Texas RE recommends that such implementation plan not apply to PRC-12-2, R4 and R8. These requirements already have significant time periods for RAS-entities to complete their compliance obligations embedded within them. For example, RAS-entities have six years under PRC-12-2, R8 to complete initial functional tests of their RAS (and 12 years for limited impact RAS if that definition is retained). Given that PRC-12-2, R4 and R8 already provide extended compliance horizons, Texas RE does not believe that additional time is necessary to implement these requirements. Instead, the 6-full-calendar month period in PRC-12-2, R4 and the six- and twelve-year periods in PRC-12-2, R8 should begin on the effective date of PRC-12-2 itself.

Additionally, the Implementation Plan contains the same "limited impact" language Texas RE has concerns about.

Texas RE requests the SDT provide justification for the testing timelines.

Likes 0	
Dislikes 0	

Response

Joel Wise - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer	Yes
Document Name	

Comment

There was no general comment section provided this round, so TVA is providing the following comments to support our negative votes on the ballot:

TVA continues to believe that the responsibility for reviewing and approving new or functionally modified RAS schemes belongs with the Planning Coordinator and not the Reliability Coordinator. Oversight of the planning of the Bulk Electric System or the entities responsible for Bulk Electric System

planning belongs with the Planning Coordinator. From TVA's perspective, the proposed standard, as written, is in direct conflict with the Functional Model, and requires a compelling reason to justify the deviation. The facts that there are fewer Reliability Coordinators (as opposed to Planning Coordinators) and that the Reliability Coordinators have the "widest-area view" do not support a significant deviation from the Functional Model. Moreover, such analysis would beyond the normal Reliability Coordinator functions, the Reliability Coordinators would not have the expertise to conduct RAS analysis in the planning horizon. Simply put, Reliability Coordinators do not have trained personnel or the appropriate tools to complete a comprehensive assessment. Planning Coordinators have oversight over all other aspects of planning of the Bulk Electric System, and there is no reason to treat Remedial Action Schemes differently.	
Likes 0	
Dislikes 0	
Response	
Ben Engelby - ACES Power Marketing - 6, Group Name ACES Standards Collaborators - PRC-012-2 Project	
Answer	Yes
Document Name	
Comment	
We agree with the SDT that the implementation plan is appropriate.	
Likes 0	
Dislikes 0	
Response	
William Temple - William Temple	
Answer	Yes
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council.	
Likes 0	
Dislikes 0	
Response	
Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2, Group Name SRC-ISONE	
Answer	Yes
Document Name	

Comment
The rationale for R2 states that RC review “minimizes the possibility of a conflict of interest that could exist because of business relationships among ….”. This explanatory purpose for R2 is not needed and in fact could prove untrue as not all RCs are independent from TOs, GOs, etc. The R3 rationale inserts the idea of “lack of dependability”. This can be understood differently by different parties. For a hardware supplier, it can mean the equipment or technology is unreliable. And if taken to an extreme, this seems to open the path to requiring the RC to decide which generators should run based on the individual generators’ forced outage rate (dependability rate?). We suggest this phrase be stricken from the R3 explanatory. For R4 the limited impact designation explanation, please clarify whether the reference to regions is meant to be an example of how the SDT came to its decision for R4 or whether it is a reference of the authority of what regions can do. We believe it is the former and the language should be improved. The concept of 4.1.2 to “avoid adverse interactions” would seem to need some criteria for evaluating what “avoid” means. Rather than state “avoid”, we suggest this requirement to be rewritten to state: “The RAS does not adversely impact the performance of other RAS, and protection and control systems.” 4.1.4.4. BES voltages shall be within post contingency voltage limit Transmission Planner and the Planning Coordinator. Some Planners don’t use voltage deviation criteria. This should it not be rewritten to state “BES voltages shall be within the Planning Coordinator’s voltage criteria under pre and post contingency conditions”.

Likes 0	
Dislikes 0	

Response

Larry Heckert - Larry Heckert	
Answer	Yes
Document Name	

Comment
Alliant Energy supports comments submitted by the MRO NERC Standards Review Forum.

Likes 0	
Dislikes 0	

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No HQ and Dominion	
Answer	Yes
Document Name	

Comment

Likes 0	

Dislikes 0	
Response	
sean erickson - Western Area Power Administration - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Oshani Pathirane - Oshani Pathirane	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Andrew Pusztai - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jared Shakespeare - Peak Reliability - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Allie Gavin - Allie Gavin	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Pearson - John Pearson	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Teresa Czyz - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Greg Davis - Greg Davis	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Mike Smith - Manitoba Hydro - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO-NERC Standards Review Forum (NSRF)	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Diana McMahon - Salt River Project - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Michael DeLoach - AEP - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael DeLoach - AEP - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Daniel Mason - City and County of San Francisco - 5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Additional Comments:

PSEG

Requirement 1 – There are no clear lines of responsibility for jointly owned RASs.

The concept of a RAS-entity causes RAS-entity causes confusion for entities that have joint ownership of a RAS. While the SDT recognizes this issue by stating: " Ideally, when there is more than one RAS-entity for a RAS, the RAS-entities would collaborate and submit a single, coordinated Attachment 1to the reviewing RC". While PSEG agrees with the intent of this statement, it is included in the "Rationale" section of the draft standard and therefore that language will not be incorporated into the final standard. Furthermore, PSEG believes that PSEG that the language of R1 would still require each RAS entity to submit all information in Attachment 1to the Reliability Coordinator, which is inconsistent with the Paragraph 81 effort and the Reliability Assurance Initiative. PSEG believes such intent could be incorporated in to R1 as follows:

R1. Prior to placing a new or functionally modified RAS in-service or retiring an existing RAS, ~~each~~ the RAS-entity shall provide the information identified in Attachment 1 for review to the Reliability Coordinator(s) where the RAS is located. If there are multiple RAS-entities, the entities may delegate a single mutually agreeable RAS-entity to submit Attachment 1 on their behalf.

PSEG wishes to note that such language would not be useful in situations where the one or more of the RAS-entities that jointly own a RAS do not want to cooperate or cannot agree upon a single lead entity. Additionally, PSEG believes that a single entity (either the Reliability Coordinator or the Planning Coordinator) should be responsible for coordinating the RAS entities.

Attachment 1 – Attachment 1 should have defined roles for the Planning Coordinator (PC) or Transmission Planner (TP).

Since the requirement for new and revised remedial action schemes are likely to be initiated by the results of Transmission system planning performance assessments done by the TP or PC in compliance with TPL-001-4, one of those entities would be best suited to perform many of the activities listed under section II of Attachment 1.

Furthermore, the technical studies that are required by Attachment 1 should not be performed individually by each RAS-entity because they do not have the skills or tools available to perform such analyses. For example, if an independent generator is asked by its RC to implement a run-back

scheme to resolve a stability issue, it is unlikely that that entity would have to tools available to provide the information required under Attachment 1, item II.6.

Rather, PSEG recommends that the RAS-entities' PC or (TP) conduct the assessment of the System performance of a proposed new, modified, or retired RAS. Under this construct a RAS-entity implementing a new, modified, or retired RAS would submit an application under R1 containing general information as well as details concerning the proposed components and logic of the RAS to its TP or PC and to other RAS-entities that would participate in the RAS The PC or TP in turn would conduct the assessment of the proposed RAS to determine if the proposed RAS resolves the System performance issues, and forward that information to the RC for consideration under Requirement 2.

Seattle City Light

Project 2010-05.3 PRC-012-2 RAS Seattle City Light Comments Additional Ballot and Non-Binding Poll March 16, 2016

SCL COMMENTS
Clarification of Roles and Responsibilities for RAS Equipment Ownership by Multiple Entities:
4.1.3 RAS-entity
The RAS-entity is any Transmission Owner, Generator Owner, or Distribution Provider that owns all or part of a RAS. If all of the RAS (RAS components) have a single owner, then that RAS entity has sole responsibility for all the activities assigned within the standard to the RAS-entity. If the RAS (RAS components) have more than one owner, then each separate RAS component owner is a RAS-entity and is obligated to participate in various activities identified by the Requirements.

The standard does not stipulate particular compliance methods. RAS-entities have the option of collaborating to fulfill their responsibilities for each applicable requirement. Such collaboration and coordination may promote efficiency in achieving the reliability objectives of the requirements; however, the individual RAS-entity must be able to demonstrate its participation for compliance. As an example, the individual RAS-entities could collaborate to produce and submit a single, coordinated Attachment 1 to the reviewing RC pursuant to Requirement R1 to initiate the RAS review process.

Per 4.1.3 RAS-entity discussion, City Light does not agree with the current definition from within the standard or the way responsibility is assigned. Compliance responsibility is being assigned to entities that cannot, by themselves, perform required actions to achieve compliance. Instead, entities that participate in a RAS scheme must rely on the original or current designer and owner of the scheme to perform work and perform coordination efforts. Without assigning primary and secondary (minor) RAS-entity responsibilities, issues could arise that are beyond the control of obligated entities. For an entity that only has end of the line equipment involved in the scheme, such as breaker trip coils, too much obligation falls on this entity that has a minor role. A large number of entities will fall into the category of owning a very small supporting portion of a RAS scheme and who do not have the means (information they do not control or determine) to perform the required reporting. Differentiation should be made between the primary RAS-entity (owner of a RAS scheme, primary) and owners of pieces of equipment who play a minor role for the primary RAS scheme. The standard should be rewritten to differentiate between primary and secondary (minor) to clarify roles and responsibilities.

As was mentioned in previous draft comments by others, this standard works great when there is one entity that owns the entire scheme. R3, R5, R6, R7, and R8 should be revised to designate overall responsibility to an owner of the scheme, with all secondary (minor participants) involved in

the scheme being required to support the owner of the scheme in their development and reporting obligations. The primary RAS-entity that designs, owns and controls the RAS should be the one responsible for coordinating and meeting these requirements from the standard.

Other possible implications:
City Light additionally suggests that the term RAS-entity only apply to this standard and not be placed in the Glossary of Terms. If City Light is labeled as a RAS-entity under this current drafted definition, we would be defined as owning some or all of a RAS. There are no approved definitions for a RAS Owner. Project 2010-05.3 PRC-012-2 RAS Seattle City Light Comments Additional Ballot and Non-Binding Poll March 16, 2016

Other standards that assign RAS responsibilities do so under the applicability verbiage of "XXXX that owns an SPS". City Light feels this would impose undue confusion and compliance responsibility on entities that are minimally involved in a RAS. Therefore, RAS Entity should be only applicable to this standard.

We suggest adding the below defined term and language which would help serve three purposes. First to clarify who has responsibility for certain aspects of this standard. Secondly, to help clarify which entity has responsibility under current and future enforced RAS related standards such as PRC-017-1. Lastly, the proposed term would align with current WECC assignments of RAS responsibility.

> RAS-owner—the Transmission Owner, Generator Owner, or Distribution Provider that is the majority owner and operator of a RAS, this is normally identified using the following prioritization;
>
> The RAS-owner is the Transmission Owner of the scheme. Where there is not a Transmission Owner that owns a portion of the RAS, the Generator Owner becomes the RAS-owner. Where there is not a Transmission Owner or a Generator Owner that owns a portion of the RAS, the Distribution Provider becomes the RAS-owner.

In conclusion, revising the standard to clarify roles and responsibilities between the primary and secondary (participants) is crucial to the successful implementation of this standard when RAS components are owned by multiple entities.

Thanks you for your time and efforts in developing a successful standard