NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project Name: 2007-06.2 Phase 2 of System Protection Coordination | PER-006-1 and Modified Definitions of OPA and RTA

Comment Period Start Date: 3/10/2016

Comment Period End Date: 4/25/2016

Associated Ballots: 2007-06.2 Phase 2 of System Protection Coordination Modified Definitions of OPA and RTA IN 1 DEF, 2007-06.2 Phase 2 of System Protection Coordination PER-006-1 IN 1 ST, and 2007-06.2 Phase 2 of System Protection Coordination PER-006-1 Non-binding Poll IN 1 NB

There were 54 responses, including comments from approximately 126 different people from approximately 93 different companies representing 8 of the 10 Industry Segments as shown on the following pages.

All comments submitted can be reviewed in their original format on the project page.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards Development, Steve Noess (via email) or at (404) 446-9691.

Summary

There were two significant themes regarding the proposed PER-006-1 (*Specific Training for Personnel*) Reliability Standard that were submitted by industry. The first theme was a concern that the PER-006-1 did not have a periodicity requirement. The second theme was expansion of the periodicity concepts discussed in the Guidelines and Technical Basis of the PER-006-1 Supplemental Material section. These same concepts

were carried over to the Reliability Standard Audit Worksheet (RSAW) and did not align with the Requirement R1 language. To address these two themes, the drafting team revised the Guidelines and Technical Basis to improve clarity on the intent and proposed revisions to the RSAW, a NERC Compliance document.

There was one significant theme regarding the proposed modifications to the definitions of "Operating Planning Analysis" (OPA) and "Real-time Assessment" (RTA) concerning "functions and limits." The drafting team agreed with comments about using the term "limits" and has replaced it with "limitations" because it more clearly articulates the drafting team's intent of the proposed modification to the definitions. The term "limitations" reflects that there may be various "limits" given the circumstances and inputs into the OPA and RTA.

There were a small number of comments concerning the Implementation Plan time frame, the drafting team increased the implementation period of PER-006-1 from 12 months to 24 months following applicable regulatory approval. Based on the Implementation Plan, the Generator Operator will have 24 months to implement PER-006-1 upon the applicable approval before Requirement R1 of PRC-001-1.1(ii) (*System Protection Coordination*) is retired. This also means that the modifications to the definitions of OPA and RTA implementation will be increased to 24 months and not become effective until the retirement of PRC-001-1.1(ii) to avoid a gap in reliability. The remaining PRC-001-1.1(ii) Requirements R2, R5, and R6 could retire as earlier as March 31, 2017 or a later date provided by the regulatory authority. Earlier retirement is allowed because the drafting team explains how Requirements R2, R5, and R6 are covered by other standards that will become effective in 2017. Requirements R3 and R4 that were revised and moved to the NERC Board adopted PRC-027-1 (*Coordination of Protection Systems for Performance During Faults*) will retire 24 months following applicable regulatory approval.

There were a number of varying comments about the Guidelines and Technical Basis. The drafting team made modifications based on the comments to improve clarity and alignment with the PER-006-1 RSAW. Other comments were individual in nature and the responses to those along with the comments summarized here will be found with each entity comment.

Questions

1. **Generator Operator: Do you agree that the proposed PER-006-1 – Specific Training for Personnel appropriately replaces the responsibilities of the Generator Operator in PRC-001-1.1(ii) – System Protection Coordination, Requirement R1 (i.e., "…be familiar with the purpose and limitations of Protection Systems schemes…")? If not, please explain and provide suggestions to improve the PER-006-1 requirement.**
2. **Transmission Operator: The reliability objective of PRC-001-1.1(ii), Requirement R1 for the Transmission Operator (i.e., "…be familiar with the purpose and limitations of Protection Systems schemes…"), that is not already covered by the *Personnel Performance, Training, and Qualifications* (PER) Reliability Standards, is addressed by inserting the phrase "functions, and limits" into the proposed modified definitions of OPA and RTA. The Transmission Operator, by integrating the "functions and limits" of Protection Systems and Remedial Action Schemes into its OPA and RTA, will ensure that the Bulk Electric System is operated within System Operating Limits (SOL) and Interconnection System Operating Limits (IROL). Do you agree that the proposed modification of these terms as defined by the *Glossary of Terms Used in NERC Reliability Standards* achieves this reliability objective? If not, please explain and provide suggestions.**
3. **Reliability Coordinator: During the progression of Project 2007-06.2, it was determined that the Reliability Coordinator, a function that is not applicable to PRC-001-1.1(ii) should, similarly, "…be familiar with the purpose and limitations of Protection Systems schemes…" as found in Requirement R1 of the standard. The reliability objective for the Reliability Coordinator that is not already covered by the PER Reliability Standards, is being addressed by inserting the phrase "functions, and limits" into the proposed modified definitions of OPA and RTA. The Reliability Coordinator, by integrating the "functions and limits" of Protection Systems and Remedial Action Schemes into its OPA and RTA, will ensure that the Bulk Electric System is operated within SOL and IROL. Do you agree that the proposed modification of these terms as defined by the *Glossary of Terms Used in NERC Reliability Standards* achieves this reliability objective? If not, please explain and provide suggestions.**
4. **Do you agree with the proposed Violation Risk Factor (VRF) and Violation Severity Levels (VSLs) for the proposed PER-006-1 Requirement? If not, please provide a basis for revising the VRF and/or what would improve the clarity of the VSLs.**
5. **Do the PER-006-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the Requirement? If not, please provide specific detail that would improve the Application Guidelines.**
6. **Do you agree with implementation period (i.e., 12 months) of the proposed PER-006-1 Reliability Standard and the proposed definition modifications of OPA and RTA based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation periods.**

7. **Are you aware of any conflicts between the proposed PER-006-1 Reliability Standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.**
8. **Are you aware of the need for a regional variance or business practice that should be considered with this project? If so, please identify it here.**
9. **If you have any other comments not previously mentioned above, please provide them here:**

The Industry Segments are:

1 — Transmission Owners

2 — RTOs, ISOs

3 — Load-serving Entities

4 — Transmission-dependent Utilities

5 — Electric Generators

6 — Electricity Brokers, Aggregators, and Marketers

7 — Large Electricity End Users

8 — Small Electricity End Users

9 — Federal, State, Provincial Regulatory or other Government Entities

10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Exelon	Chris Scanlon	1		Exelon Generation	Vince Catania	Exelon	5	RF
					Dave Carlson	Exelon	6	RF
Public Service Enterprise Group	Christy Koncz	1,3,5,6	NPCC,RF	PSEG	Jeffrey Mueller	PSEG - Public Service Electric and Gas Co	5	RF
					Joseph Smith	PSEG - Public Service Electric and Gas Co.	6	RF
					Karla Jara	PSEG - Energy Resources and Trade LLC	1	RF
					Tim Kucey	PSEG - PSEG Fossil LLC	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

MRO	Emily Rousseau	1,2,3,4,5,6	MRO	MRO-NERC Standards Review Forum (NSRF)	Amy Casucelli	Xcel Energy	3,4,5,6	MRO
					Brad Perrett	Minnesota Power	1	MRO
					Chuck Lawrence	American Transmission Company	1,3,5	MRO
					Chuck Wicklund	Otter Tail Power Company	1,3,5,6	MRO
					Dave Rudolph	Basin Electric Power Cooperative	1,3,5,6	MRO
					Jodi Jenson	Western Area Power Administration	1,6	MRO
					Joe Depoorter	Madison Gas & Electric	4	MRO
					Kayleigh Wilkerson	Lincoln Electric System	1,3,5,6	MRO
					Larry Heckert	Alliant Energy	2	MRO

					Mahmood Safi	Omaha Public Utility District	1,3,5,6	MRO
					Mike Brytowski	Great River Energy	1,5	MRO
					Scott Nickels	Rochester Public Utilities	4	MRO
					Shannon Weaver	Midwest ISO Inc.	1,3,5,6	MRO
					Terry Harbour	MidAmerican Energy Company	3,4,5,6	MRO
					Tom Breene	Wisconsin Public Service Corporation	1,3,5	MRO
					Tony Eddleman	Nebraska Public Power District	1,3,5,6	MRO
Southern Company - Southern Company Services, Inc.	Katherine Prewitt	1		Southern Company	Bill Shultz	Southern Company Generation	3	SERC
					Jennifer Sykes	Southern Company Generation	5	SERC

						and Energy Marketing		
					Scott Moore	Alabama Power Company	6	SERC
Dominion - Dominion Resources, Inc.	Randi Heise	5		Dominion - RCS	Connie Lowe	Dominion Resources, Inc.	1	SERC
					Larry Nash	Dominion Virginia Power	6	SERC
					Louis Slade	Dominion Resources, Inc.	3	RF
					Randi Heise	Dominion Resources, Inc,	5	NPCC
California ISO	Richard Vine	2		ISO/RTO Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC
					Ben Li	IESO	2	NPCC
					Charles Yeung	SPP	2	NPCC
					Greg Campoli	NYISO	2	Texas RE

					Kathleen Goodman	ISONE	2	MRO
					Mark Holman	PJM	2	NPCC
					Nathan Bigbee	ERCOT	2	RF
					Terry Bilke	MISO	2	SPP RE
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7	NPCC	RSC No NextEra	Alan Adamson	New York State Reliability Council	1	NPCC
					Brian O'Boyle	Con Edison	NA - Not Applicable	NPCC
					Brian Robinson	Utility Services	1	NPCC
					Brian Shanahan	National Grid	1	NPCC
					Bruce Metruck	New York Power Authority	1	NPCC
					David Burke	UI	2	NPCC
					David Ramkalawan	Ontario Power Generation	2	NPCC

Edward Bedder	Orange & Rockland Utilities	4	NPCC
Glen Smith	Entergy Services	4	NPCC
Gregory A. Campoli	NY-ISO	4	NPCC
Guy Zito	Northeast Power Coordinating Council	5	NPCC
Helen Lainis	IESO	6	NPCC
Kathleen Goodman	ISO-NE	7	NPCC
Kelly Silver	Con Edison	3	NPCC
Mark J. Kenny	Eversource Energy	1	NPCC
Michael Forte	Con Edison	3	NPCC
Michael Jones	National Grid	5	NPCC
Michele Tondalo	UI	1	NPCC

					Paul Malozewski	Hydro One.	3	NPCC
					Peter Yost	Con Edison	4	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Rob Vance	New Brunswick Power	1	NPCC
					Sean Bodkin	Dominion Resources Services, Inc	2	NPCC
					Si Truc Phan	Hydro Quebec	1	NPCC
					Sylvain Clermont	Hydro Quebec	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Bo Jones	Westar Energy	2	SPP RE
					Chris Dodd	Westar Energy	2	SPP RE
					J. Scott Williams	City Utilities of Springfield	3,5	SPP RE

					James Nail	Independence Power and Light	NA - Not Applicable	NA - Not Applicable
					Jason Smith	Southwest Power Pool Inc	1,3,5	SPP RE
					Michael Jacobs	Pattern Energy Group	NA - Not Applicable	NA - Not Applicable
					Mike Kidwell	Empire District Electric Company	1,3,5,6	SPP RE
					Robert Gray	Board of Public Utilities (City of McPherson)	1,3,5,6	SPP RE
					Shannon Mickens	Southwest Power Pool Inc.	1,3,5,6	SPP RE
					Stephanie Johnson	Westar Energy	1,4	SPP RE
Oxy - Occidental Chemical	Venona Greaff	7		Oxy	Michelle D'Antuono	Ingleside Cogeneration LP.	7	SERC

					Venona Greaff	Occidental Chemical Corporation	5	Texas RE

1. *Generator Operator: Do you agree that the proposed PER-006-1 – Specific Training for Personnel appropriately replaces the responsibilities of the Generator Operator in PRC-001-1.1(ii) – System Protection Coordination, Requirement R1 (i.e., "…be familiar with the purpose and limitations of Protection Systems schemes…")? If not, please explain and provide suggestions to improve the PER-006-1 requirement.*	
Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
Answer	No
Document Name	
Comment	
It does not require the Generator Operator (GOP) to perform any verification activities of retention of the training following the training, nor does it address training refreshment. The results of this omission diverges from the structure established in PER-005-2 R1, R2, and R3, and would put the RE examiner in the position of testing all plant operators and assess their abilities to properly assign a VSL. It also follows that the RE examiner would have to be familiar with the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility. This could be a stretch for most examiners, and, at the very least, lengthen the time of preparation for examination.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. Requirement R1 does not require refreshment and is not intended to align with the systematic approach to training in PER-005-2 (*Operations Personnel Training*). The performance of the requirement is to provide training and not test the plant operator's retention of the training. Content of the operational functionality of the Protection Systems and Remedial Action Schemes (RAS) are the areas of focus and it is not intended for the auditor to question the depth of the content.	
Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 5	
Answer	No

Document Name	

Comment

M. LeRoy Patterson
System Operator Trainer
Grant County PUD (GCPD)
Ephrata, WA
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Email: Lpatterson@gcpud.org

- The notion that PRC-001 R1 required training of Plant Operators is not supported historically or by plain reading of that requirement. While some personnel within GOPs had to be trained (i.e. "familiar with"), the requirement is silent regarding specific GOP personnel requiring such training. Oddly, the drafting team recognizes this and uses such an interpretation as it recommends changes to assessment definitions to bring PRC-001 requirements under PER-005 for BAs, TOPs, RCs, etc.

GCPD supports training in general and Plant Operator training specifically. Further, GCPD recognizes value in providing training to its employees, including Plant Operators.

That said, GCPD does not support PER-006 because there is no direct causal relationship between requiring training of Plant Operators and enhancing BES reliability benefits associated with Protection Systems and Remedial Action Schemes (RAS) other than the vague notion that training is always beneficial.

BES Reliability is affected adversely when Protection Systems and RAS are designed, implemented, and/or operated improperly. Of these three aspects, Plant Operators may have a role in their operation, but only from the standpoint of allowing such systems to be in service as directed or agreed upon by GOPs. For Protection Systems and RAS, which operate to protect equipment other than the unit

being relayed offline, the GOP should be required to take agreed upon actions to place such systems in service and to keep such systems functional as long as the agreed upon conditions persist. This is the manner used to enforce having AVR and PSS in service.

For Protection Systems and RAS, which operate to protect the unit, GOPs have a stake in operating such systems appropriately. In addition, GOPs are required under existing requirements to coordinate regarding such systems with TOPs et al.

In both cases, it is likely GOPs provide training for Plant Operators to ensure proper operation of Protection Systems and RAS. However, mandating such training is specifying "how" to achieve an outcome rather than requiring a necessary performance. In both cases, requirements should be in place to operate such systems within design and implementation criteria because requiring training of Plant Operators will not achieve the desired result. In addition, training Plant Operators does nothing to ensure appropriate design and implementation of such protection systems, which presumably is included in remaining PRC requirements.

Hence, PER-006 does not accomplish an appropriate reliability objective.

- If approved, PER-006 requires development of training materials, training classes, tracking systems, creation of evidence, and other administrative efforts to demonstrate compliance with PER-006. These extra tasks incur additional costs without a direct causal justification explaining why these additional costs contribute to the reliability of the BES as stated previously.

- The reliability objective is better addressed by requiring protective systems be kept in service and functional much the same way as requirements for AVRs and PSSs.

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your comments. The drafting team believes that PER-006-1 (*Specific Training for Personnel*) provides clarity over PRC-001-1.1(ii) (*System Protection Coordination*), Requirement R1 to identify the appropriate personnel who must receive training (be familiar with). Not having PER-006-1 and its associated Guidelines would result in a reliability gap in the absence of PRC-001-1.1(ii). The Generator Operator personnel at a centrally located dispatch center is addressed by PER-005-2 (*Operations Personnel Training*) and does not address plant personnel as expected by PER-006-1. The PER-005-2 standard is based on a systematic approach

to training and would not ensure that training on Protection Systems and Remedial Action Schemes (RAS) is provided for plant personnel, which are not applicable to PER-005-2. A technical conference held by the drafting team revealed that stakeholders did not want the burden of a systematic approach to training to be applied to plant personnel.	
Don Schmit - Nebraska Public Power District – 5	
Answer	No
Document Name	
Comment	
See comments in question #5 AND at the end of these comments.	
Likes 0	
Dislikes 0	
Response	
Please see the response in question #5.	
Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	
Answer	No
Document Name	
Comment	
The PSEG Companies agree that PER-006-1 appropriately addresses the responsibilities of the Generator Operator, however we are concerned that the phrase “affect the output of the generating Facility(ies) it operates” could be interpreted to require the Generator Operator to have knowledge of Protection Systems or RAS several substations distant from its point of interconnection. In this case, the Generator Operator could be required to understand the operational functionality of protection systems that the Generator Operator has no knowledge of. PSEG does not believe that this is the intent of the Standard Development Team, and suggests revising	

Requirement 1 to state**: "**Each Generator Operator shall provide training to personnel identified in Applicability section 4.1.1.1. on the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that are associated with the generator interconnection and affect the output of the generating Facility(ies) it operates."	
Likes 1	PSEG - Public Service Electric and Gas Co., 1, Smith Joseph
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team notes that Requirement R1 of PER-006-1 (*Specific Training for Personnel*) specifically references "it operates" to delineate the Protection Systems and Remedial Action Schemes (RAS) that are in purview for those identified personnel. The Guidelines and Technical Basis (Supplement Material section of PER-006-1) explains that the considerations of operational functionality could include "[r]esulting actions – tripping/closing of breakers; tripping of a generator step-up (GSU) transformer; or generator ramping/tripping control functions."	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
Talen Energy respectfully requests that the "Note to Auditor" on p.4 of the draft RSAW be changed as follows: Present text: "The documentation provided, including training if provided, should be specific to the operational functionality of Protection Systems and Remedial Action Schemes that affect output of the Facility. Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies). See Application Guidelines for details on what protective systems are covered. Generally, the Requirement focuses on those systems that are related to the electrical output of the generator." Revised text: The documentation provided, including training if provided, need not be Facility-specific. If Facility-specific training is provided, however, it should be updated if necessary to address changes or additions to Protection Systems and Remedial Action	

Schemes (RAS) that affect the output of the generating Facility(ies). See Application Guidelines for details on what protective systems are covered. Generally, the Requirement focuses on those systems that are related to the electrical output of the generator. Rationale: Changes or additions to Protection Systems or RASs would necessitate revisions to course materials and re-education of operators only if the training being given is Facility-specific, and PER-006-1 does not impose a requirement or even make a suggestion in this respect. The explanation of the term, "operational functionality," in the Guidelines and Technical Basis section of the standard does not include anything that would require training to be individualized for each plant, and the bullet points on p.9 of PER-006-list only topics of a general nature. The standard permits plant-specific training, but the Guidelines and Technical Basis material emphasizes the GOP's flexibility, which the RSAW as presently written seems to be taking away."	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team has proposed edits to the Reliability Standard Audit Worksheet (RSAW), NERC Compliance document, to address the perceived inconsistency between Guidelines and Technical Basis and the RSAW.	
Diana McMahon - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
The adjustments as made extend the training to the Plant personnel which previously the training requirements were for the System Operators. This removes the training requirement from the Control Center Personnel who are more likely to need the understanding.	
Likes 0	
Dislikes 0	
Response	

The drafting team thanks you for your comments. The drafting team notes that PER-006-1 (*Specific Training for Personnel*) applies to the plant personnel and PER-005-2 (*Operations Personnel Training*) applies to the centrally located dispatch personnel. Control center personnel in PER-005-2 has remained unchanged by this project.	
Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	No
Document Name	
Comment	
The PSEG Companies agree that PER-006-1 appropriately addresses the responsibilities of the Generator Operator, however we are concerned that the phrase "affect the output of the generating Facility(ies) it operates" could be interpreted to require the Generator Operator to have knowledge of Protection Systems or RAS several substations distant from its point of interconnection. In this case, the Generator Operator could be required to understand the operational functionality of protection systems that the Generator Operator has no knowledge of. PSEG does not believe that this is the intent of the Standard Development Team, and suggests revising Requirement 1 to state**: "**Each Generator Operator shall provide training to personnel identified in Applicability section 4.1.1.1. on the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that are associated with the generator interconnection and affect the output of the generating Facility(ies) it operates." PSEG, Segment(s) 5, 6, 1, 3, 3/10/2016	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team notes that Requirement R1 of PER-006-1 (*Specific Training for Personnel*) specifically references "it operates" to delineate the Protection Systems and Remedial Action Schemes (RAS) that are in purview for those identified personnel. The Guidelines and Technical Basis (Supplemental Material of PER-006-1) explains that the	

considerations of operational functionality could include "[r]esulting actions – tripping/closing of breakers; tripping of a generator step-up (GSU) transformer; or generator ramping/tripping control functions."	
Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
Answer	No
Document Name	
Comment	
Yes, however, FirstEnergy is voting NEGATIVE on the 1st Draft version due to concerns with text in the Guidance and Technical basis section of the standard. See question # 5 for more information.	
Likes 0	
Dislikes 0	
Response	
The PER-006-1 (*Specific Training for Personnel*) Guidelines and Technical Basis (Supplemental Material section of PER-006-1) been revised to remove the sentence "The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service" as noted in the above comment. The drafting team notes that the considerations of operational functionality are examples and are provided for guidance.	
Jamison Cawley - Nebraska Public Power District - 1	
Answer	No
Document Name	
Comment	
See comments in question #5 AND question #9 at the end of these comments.	
Likes 0	

Dislikes 0	
Response	
Please see the responses in questions 5 and 9.	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	No
Document Name	
Comment	

Kansas City Power and Light Company recommends withdrawal of PER-006-1 and its associated guideline, and offers an alternative to address GOP duties under proposed retired Standard PRC-001-1.1(ii). The recommendations are based on the following:

Generator Operator Not Equivalent to Plant Operators: PER-006-1 does not replace the responsibilities of the Generator Operator in PRC-001-1.1(ii). To replace one with the other would suggest parity between the two—an apple-to-apple change. Generator Operator in PRC-001-1.1(ii) applicability is at the entity level. The applicability under PER-006-1 is completely different, narrowly construed, creating a compliance duty on plant operators located at a generator's plant site and, as such, provides an apples-to-oranges change.

Generator Operator (GOP) is defined as, "The entity that operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services [effective 07-01-2016]," referring to the responsibilities at the entity level. The Applicability for PER-006-1 establishes the compliance obligation at the operator—the individual person—level, with the effect of defining what a plant generator operator is and what an operator is not.

While establishing duties of system operators is not foreign in NERC Standard Requirements, in this particular case, we do not believe it is necessary.

GOP Already Responsible for Reliable Operation of Its System: The GOP and, in many situations, its delegates, carry a fundamental responsibility to supply energy in a manner that is not disruptive to the reliability of the Bulk Electric System (BES). If fulfilling that responsibility requires the GOP's lever-pullers, so to speak, at the generating plant to have awareness of Protection Systems and RAS, it

is incumbent on the GOP to offer that awareness training whether a specific Standard exists or not. The GOP is in the best position to identify what training operators need to reliably manage their systems on the BES. This idea is reflected in soon to be enforceable, PER-005-2, Application Guidelines, Rationale for R6:

"The Commission acknowledged that the training for GOPs need not be as extensive as the training for TOPs and BAs. FERC also stated that the systematic approach to training methodology is flexible enough to build on existing training programs by validating and supplementing the existing training content, where necessary, using systematic methods."

PER-005-2 applies to GOP control room operators, specifically excluding the generation facility operators. However, if the GOP, as the expert in its system and using a systematic method as provided in the guidelines, believes the generation facility operator needs to have awareness of Protection Systems and RAS, the GOP is going to extend awareness training to the generation facility operator because of the GOP's overarching duty to operate its system reliably with or without the onus of PRC-001-1.1(ii) or the proposed PER-006-1.

Every System is Unique: Remedial Action Schemes (RAS) are not applicable to all generators. Establishing a compliance duty under a Standard with a single Requirement to address a potential system design is inefficient and creates a challenge for entities that do not have relevant generator related RAS. In such a case, the entity has to prove a negative to show compliance; such an effort is often overly burdensome and, frankly, does little to promote reliability of the BES.

PER-005-2 Already Establishes GOP Training Responsibilities: To address the retirement of PRC-001-1.1(ii), we believe additional language to PER-005-2 Applicability 4.1.5.1 can effectively provide for the awareness training sought under proposed PER-006-1.

KCP&L suggests the following:

1. Withdraw PER-006-1 and its associated Guidelines.

2. Add language along the lines of the following as a bullet point following PER-005-2, Applicability 4.1.5.1:

- While the specific training set forth in this Standard is not applicable to plant operators located at a generator plant site, should the GOP determine there are systems or facilities that may impact the reliable operation of the Bulk Electric System (BES) and are relevant to the performance of plant operators' duties located at a generator plant site, the applicability may be extended

to include plant operators at a generator plant site for the narrow purpose--to incorporate awareness training of specific systems or facilities that impact the BES. Such awareness training shall be incorporatedd into the GOP's systematic training methodology.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team believes that PER-006-1 (*Specific Training for Personnel*) provides clarity over PRC-001-1.1(ii) (*System Protection Coordination*), Requirement R1 to identify the appropriate personnel who must receive training (be familiar with). (1) Withdrawing PER-006-1 and its associated Guidelines and Technical Basis (Supplemental Material section of PER-006-1) would result in a reliability gap in the absence of PRC-001-1.1(ii). The Generator Operator personnel at a centrally located dispatch center is addressed by PER-005-2 (*Operations Personnel Training*) and does not address plant personnel as expected by PER-006-1. (2) The PER-005-2 standard is based on a systematic approach to training and would not ensure that training on Protection Systems and Remedial Action Schemes (RAS) is provided for plant personnel, which are not applicable to PER-005-2. A technical conference held by the drafting team revealed that stakeholders did not want the burden of a systematic approach to training to be applied to plant personnel. It is not the intent of the drafting team to have the Generator Operator provide training on Remedial Action Schemes if they do not that affect the output of the generating Facility(ies) it operates.	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	No
Document Name	
Comment	
We have several concerns that the intents of the drafting team haven't been accurately captured after participating in the Webinar (April 5, 2016). In reference to the term 'plant personnel', a drafting team member stated on the webinar that the "term wasn't just applicable to the operator but all staff and this supporting data could be found in the Technical Materials". We agree that this topic of discussion can be found in the Technical Materials section (Page 9- Guidelines: last two sentence of the first paragraph). There are	

examples provided to show what personnel shouldn't be included however, there are not examples reflecting who should be included. We suggest the drafting team include some clarifying examples of what type of 'plant personnel' should be included somewhere in the Technical Documentation. Our suggested example list would consist of (Operators, Engineers, Analysis……etc). We feel that type of information provides value as well.

Our second concern would be related to the Webinar (April 5, 2016) slides related to 'avoiding conflict with PER-005-2'. It is our understanding that PER-005-2 Standard addresses personnel at a centrally located dispatch center while PER-006 addresses GOP (plant personnel). However, our concern comes from the Applicability section 4.1.5.1 (last sentence) of PER-005-2. The language mentions the personnel who wouldn't be covered under the PER-005-2. The other personnel mentioned are those at a "centrally located dispatch center who relay dispatch instructions without making any modifications". If PER-006-1 is to cover all 'plant personnel', but PER-005-2 is to cover some 'plant personnel' it seems there is either overlap or a gap that needs to be clarified. We suggest the drafting team re-evaluate the second set of 'plant personnel' mentioned in the section above and determine of more clarity can be provided as to which personnel should and should not be included.

Finally, our last concern is related to the required periodicity of training for the 'plant personnel'. The Standard (PER-006-1) nor its Technical Documentation states how often this training should be conducted. From the webinar information (April 5, 2016) it appears that the intent of the Drafting Team is that as the reliability needs change, the training should be re-performed in order to stay consistent with those changes. We feel that this intent is not being conveyed in the Standard or its supporting documentation. Without further clarification, our interpretation is that only **one** training session needs to be conducted to meet the reliability and compliance needs. Either additional language specifying training conducted in relation to changes to the RAS function, or a period of time that training should be conducted needs to be added. Our review group suggests the drafting team use similar language implemented into Requirement R6 of PER-005-2. That language requires training conducted each calendar year and is listed as follows:

"Each Generator Operator shall conduct an evaluation each calendar year of the training established in Requirement R6 to identify and implement changes to the training".

Likes 0	
Dislikes 0	
Response	

The drafting team thanks you for your comments. The personnel that are applicable to the PER-006-1 (*Specific Training for Personnel*) Reliability Standard is clear by the use of the word "and" in Applicability 4.1.1.1: "Plant personnel who are responsible for the Real-time control of a generator 'and' receive Operating Instruction(s)…" The drafting team believes that including additional examples are not necessary for clarity. Requirement R1 does not require refresher training and is not intended to align with the systematic approach to training in PER-005-2 (*Operations Personnel Training*).	
Leo Bernier - AES - AES Corporation – 5	
Answer	No
Document Name	
Comment	
We believe the training on Radial Action Schemes is beyond the scope of the intent of the standard for a GOP.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team included Remedial Action Schemes (RAS) in PER-006-1 (*Specific Training for Personnel*) to close an identified gap in PRC-0001-1.1(ii) (*System Protection Coordination*). A RAS is included in the PER-006-1 standard because it may affect the output of a generating Facility.	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	
Comment	

The Bureau of Reclamation (Reclamation) supports PER-006-1 as an appropriate revision to the Generator Operator protection system training requirement in PRC-001-1 to address the reliability objective of operator familiarity with the "purpose and limitations of Protection Systems." Reclamation believes that the proposed requirement includes meaningful clarification that training must address "the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of … generating Facility(ies)."	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gerry Adamski - Essential Power, LLC - 5	
Answer	Yes

Document Name	
Comment	
The main concern however is to contain the scope of "operational functionality" to that required to understand how the Protection System generally operates and affects the plant and not to necessarily require specific detailed knowledge of actual settings, etc. such that operators are expected to become system protection or relay experts.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team notes that the PER-006-1 (*Specific Training for Personnel*) Guidelines and Technical Basis (see Supplemental Material section of PER-006-1) explains that the considerations of operational functionality could include "[r]esulting actions – tripping/closing of breakers; tripping of a generator step-up (GSU) transformer; or generator ramping/tripping control functions." Actual settings are not intended to be included in operational functionality.	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Duke Energy agrees that the proposed PER-006-1 appropriately covers the responsibilities of the Generator Operator in PRC-001-1.1(ii). However, we feel that the proposed PER-006-1 goes far beyond what is necessary to cover the responsibilities of the Generator Operator in PRC-001-1.1(ii) and protect the reliability of the Bulk Electric System. We feel that a basic understanding of and familiarity with protection systems and Remedial Action Schemes, as currently required, is adequate for promoting the reliability of the BES. Duke Energy does not believe that having generator specific training increases stability of the BES, and believes that the administrative effort, especially on larger utilities with numerous generating facilities, would be especially burdensome.	
Likes 0	

Dislikes 0	

Response

The drafting team thanks you for your comments. The drafting team has addressed this concern by appending the PER-006-1 (*Specific Training for Personnel*) Guidelines and Technical Basis (see Supplemental Material section of PER-006-1) to note that Facility-specific (i.e., generator specific) training is not intended.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer	Yes
Document Name	

Comment

Texas RE agrees the proposed PER-006-1 replaces the responsibilities of the Generator Operator in PRC-001-1.1(ii) (i.e., "…be familiar with the purpose and limitations of Protection Systems schemes…").

Texas RE suggest aligning the training with requirement with PER-005-2 R1.1.1 as to be done each calendar year. The Guidelines and Technical Basis document indicates that "[t]he structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service", but there is nothing indicating how often personnel should be trained.

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your comments. Requirement R1 of PER-006-1 (*Specific Training for Personnel*) does not require refresher training and is not intended to align with the systematic approach to training in PER-005-2 (*Operations Personnel Training*). The performance of the requirement is to provide training and not test the plant operator's retention of the training. Content of the operational functionality of the Protection Systems and Remedial Action Schemes are the areas of focus and it is not intended for the auditor to question the depth of the content.

The Guidelines and Technical Basis (Supplemental Material section of PER-006-1) has been revised to remove the sentence "The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service."	
Ben Engelby - ACES Power Marketing – 6	
Answer	Yes
Document Name	
Comment	
We appreciate the SDT's efforts in developing this draft standard and thank the team for responding to our previous comments that recommended moving this requirement to the PER family of standards. We would like to point out that this standard is very specific with regard to the applicability section, and would hope that future standard projects do not attempt to consolidate other training standards and requirements to PER-006-1. There may be future unintended consequences if other training requirements were to be consolidated in this standard that is only applicable to a subset of plant personnel.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	Yes
Document Name	
Comment	

No Comment	
Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
William Hutchison - Southern Illinois Power Cooperative – 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	
Leonard Kula - Independent Electricity System Operator – 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. – 6	
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	
Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	
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	

Steve Rawlinson - Southern Indiana Gas and Electric Co. – 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bradley Collard - SunPower – 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. – 3	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	Yes
Document Name	
Comment	
Likes 1	Oxy - Ingleside Cogeneration LP, 5, D'Antuono Michelle
Dislikes 0	
Response	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP – 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Chris Scanlon - Exelon - 1, Group Name Exelon Generation	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
M Lee Thomas - Tennessee Valley Authority – 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
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	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. – 2	
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	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	

Response

2. Transmission Operator: The reliability objective of PRC-001-1.1(ii), Requirement R1 for the Transmission Operator (i.e., "…be familiar with the purpose and limitations of Protection Systems schemes…"), that is not already covered by the Personnel Performance, Training, and Qualifications (PER) Reliability Standards, is addressed by inserting the phrase "functions, and limits" into the proposed modified definitions of OPA and RTA. The Transmission Operator, by integrating the "functions and limits" of Protection Systems and Remedial Action Schemes into its OPA and RTA, will ensure that the Bulk Electric System is operated within System Operating Limits (SOL) and Interconnection System Operating Limits (IROL). Do you agree that the proposed modification of these terms as defined by the Glossary of Terms Used in NERC Reliability Standards achieves this reliability objective? If not, please explain and provide suggestions.	
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	No
Document Name	
Comment	
While Hydro One Networks Inc. agrees that an evaluation may be performed for an OPA, an evaluation cannot be performed in real-time for an RTA. An OPA may be conducted over a longer period as next-day operations (as opposed to real-time operations) are considered. However, as the term implies, an RTA is conducted in real-time and therefore constitutes a quicker determination of conditions as opposed to a more time-consuming and comprehensive analysis. Therefore, Hydro One suggests that the definition of RTA start off with "*A determination of system conditions*…". The definition of OPA may be left as is if the definition of RTA is modified as suggested. While Question #3 below pertains to the RC and does not pertain to Hydro One Networks Inc., Hydro One agrees with the NPCC that assurance that the BES is operated within SOLs and IROLs is separate from integrating the functions and limits of Protection Systems and Remedial Action Schemes into OPA an RTA. Further, Hydro One agrees with the NPCC that the term "limits" may imply SOLs and IROLs, which Protection Systems have little if not, any impact on. Therefore, the term "limitations" is a better substitute for the term "limits".	
Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comments. The suggested changes are out of scope of this project. Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA). See also NPPC responses in question 3.

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer	No
Document Name	

Comment
SRC does not agree with the modification of the OPA and RTA definitions. SRC believes that the existing PER standard covers the intended scope of PRC-001-1.1 and the change in the definitions of OPA and RTA goes beyond the original scope of PRC-001-1.1. Additionally, RCs have protection system and SPS knowledge and awareness requirements in the IRO standards. However, if the SDT still believes the change in the definition of OPA and RTA is required, then there are better alternative phrases that will improve current proposal. The inclusion of the term “functions, and limits” in OPA and RTA can be misinterpreted. In the existing Glossary of Terms Used in NERC Reliability Standards (updated February 19, 2016) there are 21 references to “limit” or “Limit”, with vast majority of them referencing thermal, voltage, and stability limits and/or SOL and IROL. SRC suggest SDT consider the following alternative phrases to "functions, and limits" that will eliminate future confusion: 1) operational functionality, 2) intended functions, and 3) functions and limitations. Additionally, removing the word “schemes” from the phrase “protection system schemes” in translating this requirement from PRC-001-1.1 to the RTA and OPA definitions introduces confusion. Per the definition in the NERC Glossary of Terms, a protection system could be anything from a single protective relay to a set of relays designed to address a specific problem such as the exclusions identified in the RAS definition. The proposed language could be interpreted to mean that RCs/BAs/TOPs must be aware of the functions and limits of every single relay in its area, greatly expanding the scope of the requirements in the IRO and TOP standards that

reference the RTA and OPA. SRC recommends the drafting team to use the defined term “Composite Protection System” instead of “Protection System”.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The technical conference in February 2016 concluded that Protection Systems and Remedial Action Schemes (RAS) would be addressed through the reliability–related tasks analysis by the Reliability Coordinator or Transmission Operator under PER-005-2 (*Operations Personnel Training*). Revisions to defined terms of “Operational Planning Analysis” (OPA) and “Real-time Assessment” (RTA) were made to ensure that Reliability Coordinators and Transmission Operators would incorporate Protection Systems and Remedial Action Schemes into these evaluations. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA). The drafting team notes that the definitions of RTA and OPA are approved and include the terms Protection Systems and Remedial Action Schemes. This project proposes modifying the definitions to address the reliability objective that the Reliability Coordinator and Transmission Operator integrate the functions and limits of Protection Systems and Remedial Action Schemes to ensure the Bulk Electric System (BES) is operated within System Operating Limits (SOL) and Interconnection Reliability Operating Limits (IROL). The drafting team discontinued the approach of using the term “Composite Protection System” based on stakeholder comments from previous postings during this project.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	No
Document Name	
Comment	

Texas RE is concerned there is no explicit training requirement for TOPs and RCs on operational functionality of Protection Systems and Remedial Action Schemes (RAS). PER-005-2 requires TOPs and RCs to develop a list of "reliability-related tasks" but it does not specify these tasks include Protection Systems and RASes. Texas RE is concerned that adding the terms "functions and limits" to the definitions do not ensure that each TOP will be familiar with the functions and limitations of its Protections Systems and RASes as they need to be in PRC-001-1.1(ii). Additionally, with regard to the proposed definitions, SOL and IROL exceedances are only one aspect of situational awareness necessary for reliable operation of the BES. In order to maintain situational awareness, a TOP should be aware of Protection Systems and RASs to operate the system regardless of whether it is within SOLs or IROLs. For example, TOPs might be aware of how a unit tripped due to operation of a RAS and how that would impact an SOL or IROL exceedance. But you might not necessarily understand the reason of the generator trip as a result of the RAS operation and therefore lack knowledge of the duration of generator outage and other pertinent information. The need for situational awareness beyond SOL and IROL exceedances is more important for the RC, as RCs are responsible for coordination among TOPs.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. A technical conference held by the drafting team in February 2016 concluded that Protection Systems and Remedial Action Schemes (RAS) would be addressed through the reliability–related tasks analysis by the Reliability Coordinator or Transmission Operator under PER-005-2 (*Operations Personnel Training*). Revisions to defined terms of "Operational Planning Analysis" (OPA) and "Real-time Assessment" (RTA) were made to ensure that Reliability Coordinators and Transmission Operators would incorporate Protection Systems and Remedial Action Schemes into these evaluations.	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	

As a best practice, ERCOT believes it is preferable to include requirements in the Reliability Standards rather than in definitions. Because requirements in definitions do not have associated measures or VRFs/VSLs, compliance and enforcement could be complicated.

ERCOT recognizes that the SDT's intent is to translate the requirement R1 of PRC-001-1.1 for the TOP and BA to "be familiar with the purpose and limitations of Protection System schemes applied in its area" to the RTA and OPA definitions used in the IRO/TOP standards. However, the change from the phrase "purpose and limitations of Protection System schemes" to the phrase "known Protection System and Remedial Action Scheme status or degradation, functions, and limits," is problematic for several reasons.

In the context of protection systems, SPSs, and RASs, the difference in meaning between "limits" and "limitations" is significant. The word "limits" in the proposed RTA and OPA definitions has the potential to be confused with system operating limits (SOLs). Requiring RCs and TOPs to consider SOLs for protection systems and RASs in RTAs and OPAs is unnecessary because GOs and TOs are already required to consider those SOLs for those facilities under FAC-008 R2.3 and R2.4.1 and FAC-008 R3.3 and R3.4.1. For this reason, ERCOT disagrees with Question 2's statement that the proposed definition changes "will ensure that the Bulk Electric System is operated within System Operating Limits (SOL) and Interconnection System Operating Limits (IROL)."

The word "limits" could also be misconstrued to mean limits on protection systems and RASs in the form of protection relay set points. Facility owners responsible for protection system maintenance and testing regularly collect and maintain relay set point information. However, this information has not been typically provided by facility owners to RCs and TOPs since Facility Ratings have been used to operate the system, and the set points for the majority of relays utilized to protect equipment are well beyond the Facility Ratings. Without guidance on which specific limit information is required, RCs and TOPs would potentially be required to consider an enormous number of relay set points, which are subject to constant change, making integration of this information into an RTA or OPA challenging and burdensome, without any meaningful reliability improvement. Furthermore, under the new IRO-008-2 Requirement R4, effective April 1, 2017, RCs are required to conduct an RTA every 30 minutes. Incorporating relay set point information into an RTA every 30 minutes means an RC would need to collect and incorporate large and constantly fluctuating data sets. This introduces a burdensome RC requirement without any discernible reliability benefit.

Introducing a "limit" to track under the RTA and OPA may also create confusion over the responsibility of the RC/TOP to respond to such a "limit" if reached or exceeded. If an RC/TOP is already operating to thermal limits, this additional limit is unnecessary and confusing. To avoid this confusion, ERCOT recommends the SDT replace the term "functions and limits," with either (in order of preference): 1.) "operational functionality," 2.) "intended functions," or 3.) "functions and limitations." ERCOT also recommends the

SDT provide examples of how an RTA or OPA can be performed and documented to show evidence that "known Protection System and Remedial Action Scheme status or degradation and operational functionality" have been incorporated.

Additionally, removing the word "schemes" from the phrase "protection system schemes" in translating this requirement from PRC-001-1.1 to the RTA and OPA definitions introduces confusion. Per the definition in the NERC Glossary of Terms, a protection system could be anything from a single protective relay to a set of relays designed to address a specific problem such as the exclusions identified in the RAS definition. The proposed language could be interpreted to mean that RCs/BAs/TOPs must be aware of the functions and limits of every single relay in its area, greatly expanding the scope of the requirements in the IRO and TOP standards that reference the RTA and OPA. SRC recommends the drafting team to use the defined term "Composite Protection System" instead of "Protection System".

ERCOT also recommends the SDT provide industry with guidance on distinguishing between "protection system schemes" and "protective relays" so as to avoid future confusion.

Likes 0	
Dislikes 0	

Response

Thank you for your suggestion. The drafting team changed the term "limits" to "limitations" in both definitions. The term "limitations" was chosen based on comments and more clearly articulates the drafting team's intent of the proposed modification to the definitions. The term "limitations" reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).

The drafting team notes that the definitions of "Operating Planning Analysis" (OPA) and "Real-time Assessment" (RTA) are approved and include the terms Protection Systems and Remedial Action Schemes (RAS). This project proposes modifying the definitions to address the reliability objective that the Reliability Coordinator and Transmission Operator integrate the functions and limits of Protection Systems and Remedial Action Schemes to ensure the Bulk Electric System (BES) is operated within System Operating Limits (SOL) and Interconnection Reliability Operating Limits (IROL). The drafting team discontinued the approach of using the term "Composite Protection System" based on stakeholder comments from previous postings during this project.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra

Answer	No
Document Name	
Comment	
While we support the proposed revision to the two terms to achieve the intended purpose, we do not agree with the words “and limits”. The word “limits” lends itself to be interpreted as the system operating limits or interconnection system operating limits on which the Protection Systems, etc. have little bearing on. We suggest to reword the above to “functions and limitations” or “functions, limitations” to more accurately reflect the intent of the training on composite protection systems and RASs.	
Likes 0	
Dislikes 0	
Response	
Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	No
Document Name	
Comment	
PER-005-2 requires a Systematic Approach to training for the Transmission Operator and Balancing Authority which includes the documented methodology of reliability related tasks addresses the PRC-001-1.1(ii) R1 requirement to "be familiar with the purpose and limitations of Protection System Schemes." The modification to these terms is NOT needed to achieve this reliability objective,	

since the training is already required as part of the PER-005 standard. Please explain how entities reading these definitions can relate that training on relays is needed by added the words "functions and limitations" to OPA and RTA.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. A technical conference held by the drafting team in February 2016 concluded that Protection Systems and Remedial Action Schemes (RAS) would be addressed through the reliability–related tasks analysis by the Reliability Coordinator or Transmission Operator under PER-005-2 (*Operations Personnel Training*). Revisions to defined terms of "Operational Planning Analysis" (OPA) and "Real-time Assessment" (RTA) were made to ensure that Reliability Coordinators and Transmission Operators would incorporate Protection Systems and Remedial Action Schemes into these evaluations.	
Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	No
Document Name	
Comment	
PSEG supports the PJM comments on this question.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see the response to the PJM comments for question 2.	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	

Answer	No
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council- Standards Review Committee (SRC).	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see the response to the ISO/RTO Council- Standards Review Committee (SRC) comments for question 2.	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council- Standards Review Committee (SRC).	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see the response to the ISO/RTO Council- Standards Review Committee (SRC) comments for question 2.	

Justin Mosiman - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
BPA supports PER-006-1 applicability solely to Generator Operators. However, BPA does not support the revised Operational Planning Analysis (OPA) and Real-Time Assessment (RTA) definitions as part of this project. BPA's concern is the compliance and reliability ambiguity presented by including "functions and limits" without specific guidance and/or requirements for the implementation of those terms. BPA desires to have the revised definitions excluded from project 2007-06.2. BPA suggests including the language in new or revised Standard(s) requirements, with specific guidance that would allow entities to meet the requirements and implementation of "functions and limits", such as TOP-001 and/or TOP-002.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team considered the approach of revising multiple Transmission Operations and Interconnection Reliability Operations and Coordination (TOP/IRO) standards to address the "functions and limits" of Protection Systems and Remedial Action Schemes. However, the team along with outreach to industry, determined that a surgical modification to the definitions of "Operational Planning Analysis" (OPA) and "Real-time Assessment" (RTA) over changing multiple standards was the best approach. The team did revise the proposed changes slightly by replacing "limits" with "limitations."	
Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	
Answer	No
Document Name	
Comment	

PSEG supports the PJM comments on this question.	
Likes 1	PSEG - Public Service Electric and Gas Co., 1, Smith Joseph
Dislikes 0	

Response

Thank you for your comment, please see the response to the PJM comments for question 2.

Steve Rawlinson - Southern Indiana Gas and Electric Co. - 1

Answer	No
Document Name	

Comment

Vectren supports a more clear use of “functions and limits” with respect to the transmission operators knowledge of Protection Systems. The transmission operators should have a clear understanding of the impacts of a Protections System on electrical facilities. Specifically, the operators should know and plan for the resulting state of facilities that would be outaged for a typical fault. Generally, most facilities will clear from breaker to breaker, but a SPS or RAS may energize or change state of other non-coincidental facilities. The transmission operator should know the “functions and limits” in the context of planning the extent of the outage. However, with the newer technology programmable relays, there are “function” statements inside of the relay that a system protection technician would know, but a transmission operator would not need to know. The same could be stated about limits. The programmable relays have many “limits” and timers inside the relay “functions” that the transmission operator does not need to know. Vectren agrees that limits, as it pertains to SOL’s and IROL’s, need to be used by the transmission operator. These limits are not in the same context as internal protection system “functions and limits” within a programmable relay.

Likes 0	
Dislikes 0	

Response
Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).

Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	No
Document Name	
Comment	
Vectren supports a more clear use of “functions and limits” with respect to the transmission operators knowledge of Protection Systems. The transmission operators should have a clear understanding of the impacts of a Protections System on electrical facilities. Specifically, the operators should know and plan for the resulting state of facilities that would be outaged for a typical fault. Generally, most facilities will clear from breaker to breaker, but a SPS or RAS may energize or change state of other non-coincidental facilities. The transmission operator should know the “functions and limits” in the context of planning the extent of the outage. However, with the newer technology programmable relays, there are “function” statements inside of the relay that a system protection technician would know, but a transmission operator would not need to know. The same could be stated about limits. The programmable relays have many “limits” and timers inside the relay “functions” that the transmission operator does not need to know. Vectren agrees that limits, as it pertains to SOL’s and IROL’s, need to be used by the transmission operator. These limits are not in the same context as internal protection system “functions and limits” within a programmable relay.	
Likes 0	
Dislikes 0	
Response	

Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	
Answer	No
Document Name	
Comment	
Vectren supports a more clear use of “functions and limits” with respect to the transmission operators knowledge of Protection Systems. The transmission operators should have a clear understanding of the impacts of a Protections System on electrical facilities. Specifically, the operators should know and plan for the resulting state of facilities that would be outaged for a typical fault. Generally, most facilities will clear from breaker to breaker, but a SPS or RAS may energize or change state of other non-coincidental facilities. The transmission operator should know the “functions and limits” in the context of planning the extent of the outage. However, with the newer technology programmable relays, there are “function” statements inside of the relay that a system protection technician would know, but a transmission operator would not need to know. The same could be stated about limits. The programmable relays have many “limits” and timers inside the relay “functions” that the transmission operator does not need to know. Vectren agrees that limits, as it pertains to SOL’s and IROL’s, need to be used by the transmission operator. These limits are not in the same context as internal protection system “functions and limits” within a programmable relay.	
Likes 0	
Dislikes 0	
Response	
Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions.	

The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).	
Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS	
Answer	No
Document Name	
Comment	
Domminion supports the position of PJM and ISO-NE related to the proposed modification of these terms as defined by the *Glossary of Terms Used in NERC Reliability Standards*. While we support the proposed revision to the two terms to achieve the intended purpose, we do not agree with the words “and limits”. The word “limits” lends itself to be interpreted as the system operating limits or interconnection system operating limits on which the Protection Systems, etc. have little bearing on. We suggest to reword the above to “functions and limitations” or “functions, limitations” to more accurately reflect the intent of the training on composite protection systems and RASs.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the responses to PJM and ISO-NE in questions 2.	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	

The proposal is to revise the RTA and OPA definitions to cover “RAS”, “functions” and “limits”. However, per these definitions a third party can perform the RTA and OPA for the TOP, and the BA is not even necessarily involved per future TOP standards. It is not clear that this proposal ensures the BA/TOP familiarity with Protection Systems related to “RAS”, “functions” and “limits”. Also, we have had an ongoing challenge determining who performs the GOP function; is it the folks at the “centrally located dispatch center” per PER-005-2 or is it the “plant personnel” per PER-006? Maybe in Functional Model these could be split into separate roles/registrations. Specific to PER-006, not requiring familiarity of Protection Systems for the GOP centrally located dispatch center folks may be a gap. NIPSCO presently complies with PRC-001-0 R1 with an approach that we believe will cover the requirement and revised definitions of Project 2007-06.2 Phase 2 and therefore is voting Affirmative, however we would like to see our concerns addressed. We appreciate the efforts of this SDT, especially the extensive outreach to stakeholders on this project.	
Likes 0	
Dislikes 0	
Response	
A technical conference held by the drafting team in February 2016 concluded that Protection Systems and Remedial Action Schemes (RAS) would be addressed through the reliability–related tasks analysis by the Reliability Coordinator or Transmission Operator under PER-005-2 (*Operations Personnel Training*). Revisions to defined terms of “Operational Planning Analysis” (OPA) and “Real-time Assessment” (RTA) were made to ensure that Reliability Coordinators and Transmission Operators would incorporate Protection Systems and Remedial Action Schemes into these evaluations. Please note that the OPA and RTA are not applicable to the Balancing Authority. The Generator Operator personnel at a centrally located dispatch center is addressed by PER-005-2 and does not address plant personnel as expected by PER-006-1 (*Specific Training for Personnel*).	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No

Document Name	
Comment	
While we support the proposed revision to the two terms to achieve the intended purpose, we do not agree with the words "and limits". The word "limits" lends itself to be interpreted as the system operating limits or interconnection system operating limits on which the Protection Systems, etc. have little bearing on. We suggest to reword the above to "functions and limitations" or "functions, limitations" to more accurately reflect the intent of the training on composite protection systems and RASs.	
Likes 0	
Dislikes 0	
Response	
Thank you for your suggestion. The drafting team changed the term "limits" to "limitations" in both definitions. The term "limitations" was chosen based on comments and more clearly articulates the drafting team's intent of the proposed modification to the definitions. The term "limitations" reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Ben Engelby - ACES Power Marketing - 6	
Answer	Yes
Document Name	
Comment	
The proposed modification of these terms achieves the reliability objective.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
In our interpretation of the proposed changes to the definitions, the intent is that the TOP needs to be familiar with the 'functions and limits' of the Protection System and RAS so they can Identify and understand how those systems will impact system reliability and/or if that system reliability is reduced or threatened. Additionally, the operators must include this knowledge into their everyday process of analyzing and operating their portion of the system in reference to the (BES) SOL and IROL. Based on the presentations from the webinar (April 5, 2016), we interpret that the proposed changes are intended to ensure the Analysis Performance under PER-005-2 includes both the Protection System and RAS. If that is the case, we feel that the message may not be conveyed adequately in the	

mapping document. We suggest adding some footnotes or other language to the document stating why the Requirements are mentioned, however we're not sure that the end goal is sufficiently communicated in order to help the industry understand the proposed changes. Additionally we suggest the drafting team consider whether the proposed changes to the definitions should be conducted independent of this project. There are already many moving pieces in this project and this only adds more confusion. Technically, there are five proposed Standards associated with this project and all depends on the retirement of PRC-001 and its Requirements. Adding two definitions from the previous TOP/IRO Project warrants its own attention.	
Likes 0	
Dislikes 0	
Response	
Operational Planning Analysis (OPA) and Real-time Assessment (RTA).The mapping document explains how the current PRC-001-1.1(ii) (*System Protection Coordination*), Requirements R1, R2, R5, and R6 are addressed by other Transmission Operations and Interconnection Reliability Operations, and Coordinator (TOP/IRO) Reliability Standards. This along with the proposed PER-006-1 (*Specific Training for Personnel*) and the revised definitions of OPA and RTA facilitates the complete retirement of PRC-001-1.1(ii). The mapping document is not intended to explain how an entity will incorporate Protection Systems and Remedial Action Schemes (RAS) into their OPA and RTA evaluations. The systematic approach to training under PER-005-2 (*Operations Personnel Training*) is the process by which the Reliability Coordinator and Transmission Operator will determine what training its personnel will receive on how these Protection Systems and Remedial Action Schemes are integrated into the evaluations. The standard and definitions are proposed together because both are integral to the reliability objectives being maintained with the retirement of PRC-001-1.1(ii). Separating them into two different projects would prevent the project from advancing with the recent approval of PRC-027-1 (*Coordination of Protection Systems for Performance During Faults*) onto a filing with regulators.	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	Yes
Document Name	

Comment	
No comments.	
Likes 0	
Dislikes 0	
Response	
Andrew Pusztai - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
ATC supports the proposed revisions because NERC's explanation matches ATC's expectation regarding the correct understanding of the new, undefined terms "functions" and "limits". For example, ATC correlates "functions" with "purpose" of Protection Systems and Remedial Action Schemes, which would mean understanding that there are different functions implemented by relaying such as undervoltage protection, overcurrent protection, impedance relaying, etc. Additionally, ATC understands "limits" to correlate with current PRC-001-1.1(ii) term "limitations", which would mean understanding the limitations of relaying such as overspeed generator protection will not clear a fault by design, a bus differential will not clear a fault outside of its zone of protection, pulling relay trips means a breaker won't trip if the relay sends a signal to trip, etc. This corresponds to ATC's understanding that "limits" does **not** refer to defining System Operating Limits due to relay settings, in cases where the relay setting produces a lower facility rating than the other connected equipment, because facility limits due to relay settings (or other equipment) are covered by NERC Standard FAC-008-3 R3.4.1 and the NERC Glossary of Terms definition for "System Operating Limit".	
Likes 0	

Dislikes 0	
Response	
Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
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	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
M Lee Thomas - Tennessee Valley Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
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	

Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bradley Collard - SunPower - 5	
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	
Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Angela Gaines - Portland General Electric Co. - 3	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
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	
William Hutchison - Southern Illinois Power Cooperative - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	
Document Name	
Comment	
n/a	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	
Document Name	
Comment	

N/A	
Likes 0	
Dislikes 0	
Response	

3. *Reliability Coordinator: During the progression of Project 2007-06.2, it was determined that the Reliability Coordinator, a function that is not applicable to PRC-001-1.1(ii) should, similarly, "…be familiar with the purpose and limitations of Protection Systems schemes…" as found in Requirement R1 of the standard. The reliability objective for the Reliability Coordinator that is not already covered by the PER Reliability Standards, is being addressed by inserting the phrase "functions, and limits" into the proposed modified definitions of OPA and RTA. The Reliability Coordinator, by integrating the "functions and limits" of Protection Systems and Remedial Action Schemes into its OPA and RTA, will ensure that the Bulk Electric System is operated within SOL and IROL. Do you agree that the proposed modification of these terms as defined by the Glossary of Terms Used in NERC Reliability Standards achieves this reliability objective? If not, please explain and provide suggestions.*	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
Same comment as in Q2, above.	
Likes 0	
Dislikes 0	
Response	
Please see the response in question 2.	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	

I don't think RCs will ever be familiar with the purpose and limitations of PS schemes in their footprint; it is too vast an area. However this is not a "show stopper" for us since we are not an RC.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS	
Answer	No
Document Name	
Comment	
Dominion supports PJM on the following comment: PJM agrees with the intention of the drafting team but believes there are better alternative phrases that will improve current proposal. The inclusion of the term “functions, and limits” in Operational Planning Analysis (OPA) and Real-time Assessment (RTA) can be misinterpreted. In the existing Glossary of Terms Used in NERC Reliability Standards (updated February 19, 2016) there are 21 references to “limit” or “Limit”, with vast majority of them referencing thermal, voltage, and stability limits and/or SOL and IROL. SRC suggest SDT consider the following alternative phrases to "functions, and limits" that will eliminate future confusion: 1) operational functionality, 2) intended functions, and 3) functions and limitations.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment. Please see the response to PJM in question 3.	
Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	
Answer	No
Document Name	
Comment	
PSEG supports the PJM comments on this question	
Likes 1	PSEG - Public Service Electric and Gas Co., 1, Smith Joseph
Dislikes 0	
Response	
Thank you for your comment. Please see the response to PJM in question 3.	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council- Standards Review Committee (SRC).	
Likes 0	
Dislikes 0	
Response	

Thank you for referring to the comments of others. Please see the response to the ISO/RTO Council- Standards Review Committee (SRC) comments.	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council- Standards Review Committee (SRC).	
Likes 0	
Dislikes 0	
Response	
Thank you for referring to the comments of others. Please see the response to the ISO/RTO Council- Standards Review Committee (SRC) comments.	
Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	No
Document Name	
Comment	
PSEG supports the PJM comments on this question.	
Likes 0	
Dislikes 0	

Response	
Thank you for referring to the comments of others. Please see the response to the PJM comments.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
Answer	No
Document Name	
Comment	
While we support the proposed revision to the two terms to achieve the intended purpose, we do not agree with the words “and limits”. The word “limits” lends itself to be interpreted as the system operating limits or interconnection system operating limits on which the Protection Systems, etc. have little bearing on. We suggest to reword the above to “functions and limitations” or “functions, limitations” to more accurately reflect the intent of the training on composite protection systems and RASs.	
Likes 0	
Dislikes 0	
Response	
Thank you for your suggestion. The drafting team changed the term “limits” to “limitations” in both definitions. The term “limitations” was chosen based on comments and more clearly articulates the drafting team’s intent of the proposed modification to the definitions. The term “limitations” reflects that there may be additional circumstances and inputs into the Operational Planning Analysis (OPA) and Real-time Assessment (RTA).	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	

Comment	
Comments: Please see response to question 2.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the response to your comments in question 2.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	No
Document Name	
Comment	
Texas RE is concerned there is no explicit training requirement for and RCs on operational functionality of Protection Systems and Remedial Action Schemes (RAS). PER-005-2 requires TOPs and RCs to develop a list of "reliability-related tasks" but it does not specify these tasks include Protection Systems and RASes. Additionally, with regard to the proposed definitions, SOL and IROL exceedances are only one aspect of situational awareness necessary for reliable operation of the BES. In order to maintain situational awareness, the RC should be aware of Protection Systems and RASs to operate the system regardless of whether it is within SOLs or IROLs. For example, the RC might be aware of how a unit tripped due to operation of a RAS and how that would impact an SOL or IROL exceedance. But you might not necessarily understand the reason of the generator trip as a result of the RAS operation and therefore lack knowledge of the duration of generator outage and other pertinent information. The need for situational awareness beyond SOL and IROL exceedances is more important for the RC, as RCs are responsible for coordination among TOPs.	
Likes 0	

Dislikes 0	

Response
The drafting team thanks you for your comment. A technical conference by the drafting team in February 2016 concluded that Protection Systems and Remedial Action Schemes (RAS) would be addressed through the reliability–related tasks analysis by the Reliability Coordinator or Transmission Operator under PER-005-2 (*Operations Personnel Training*). Revisions to defined terms of "Operational Planning Analysis" (OPA) and "Real-time Assessment" (RTA) were made to ensure that Reliability Coordinators and Transmission Operators would incorporate Protection Systems and Remedial Action Schemes into these evaluations.

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	No
Document Name	
Comment	
Please see response to Question 2.	
Likes 0	
Dislikes 0	

Response
Please see the response in question 2.

Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	Yes
Document Name	
Comment	

No comments.	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
In our interpretation of the proposed changes to the definitions, the intent is that the RC needs to be familiar with the 'functions and limits' of the Protection System and RAS so they can Identify and understand how those systems will impact system reliability and/or if that system reliability is reduced or threatened. Additionally, the operators must include this knowledge into their everyday process of analyzing and operating their portion of the system in reference to the (BES) SOL and IROL. Based on the presentations from the webinar (April 5, 2016), we interpret that the proposed changes are intended to ensure the Analysis Performance under PER-005-2 includes both the Protection System and RAS. If that is the case, we feel that the message may not be conveyed adequately in the mapping document. We suggest adding some footnotes or other language to the document stating why the Requirements are mentioned, however we're not sure that the end goal is sufficiently communicated in order to help the industry understand the proposed changes. Additionally we suggest the drafting team consider whether the proposed changes to the definitions should be conducted independent of this project. There are already many moving pieces in this project and this only adds more confusion. Technically, there are five proposed Standards associated with this project and all depends on the retirement of PRC-001 and its Requirements. Adding two definitions from the previous TOP/IRO Project warrants its own attention.	

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your comment. The mapping document explains how the current PRC-001-1.1(ii) (*System Protection Coordination*), Requirements R1, R2, R5, and R6 are addressed by other Transmission Operations and Interconnection Reliability Operations, and Coordination (TOP/IRO) Reliability Standards. This along with the proposed PER-006-1 (*Specific Training for Personnel*) and the revised definitions of Operating Planning Analysis (OPA) and Real-time Assessment (RTA) facilitates the complete retirement of PRC-001-1.1(ii). The mapping document is not intended to explain how an entity will incorporate Protection Systems and Remedial Action Schemes (RAS) into their OPA and RTA evaluations. The systematic approach to training under PER-005-2 (*Operations Personnel Training*) is the process by which the Reliability Coordinator and Transmission Operator will determine what training its personnel will receive on how these Protection Systems and Remedial Action Schemes are integrated into the evaluations.

The standard and definitions are proposed together because both are integral to the reliability objectives being maintained with the retirement of PRC-001-1.1(ii). Separating them into two different projects would prevent the project from advancing with the recent approval of PRC-027-1 (*Coordination of Protection Systems for Performance During Faults*) onto a filing with regulators.

Ben Engelby - ACES Power Marketing - 6

Answer	Yes
Document Name	

Comment

The proposed modification of these terms achieves the reliability objective.

Likes 0	
Dislikes 0	

Response

Thank you for your comment.	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

William Hutchison - Southern Illinois Power Cooperative - 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	

Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
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	
Bradley Collard - SunPower - 5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
M Lee Thomas - Tennessee Valley Authority - 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
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	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
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	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Angela Gaines - Portland General Electric Co. - 3	
Answer	
Document Name	
Comment	
NA	
Likes 0	

Dislikes 0	
Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	
Answer	
Document Name	
Comment	
Vectren is not registered as a Reliability Coordinator.	
Likes 0	
Dislikes 0	
Response	
N/A.	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	
Document Name	
Comment	
N/A	

Likes 0	
Dislikes 0	
Response	
N/A.	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	
Document Name	
Comment	
n/a	
Likes 0	
Dislikes 0	
Response	
N/A	
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	
Document Name	
Comment	

N/A	
Likes 0	
Dislikes 0	
Response	
N/A	

4. *Do you agree with the proposed Violation Risk Factor (VRF) and Violation Severity Levels (VSLs) for the proposed PER-006-1 Requirement? If not, please provide a basis for revising the VRF and/or what would improve the clarity of the VSLs.*	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	No
Document Name	
Comment	
Duke Energy does not believe that a VRF rating of Medium is appropriate for this requirement. We feel that a VRF of Low is more suitable based on the risk that the requirement poses to the BES.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. The drafting team notes the Violation Risk Factor / Violation Severity Level Justification document explains that the Violation Risk Factor of Medium is consistent with the training Requirements in the PER-005-2 (*System Personnel Training*) Reliability Standard, which includes the Balancing Authority, Generator Operator, Reliability Coordinator, and Transmission Operator.	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	No
Document Name	
Comment	
Kansas City Power and Light Company recommends withdrawal of PER-006-1, making the VRF and VSL moot.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
M Lee Thomas - Tennessee Valley Authority - 5	
Answer	No
Document Name	
Comment	

Violation Severity Levels (VSL) are based on the number of applicable personnel that the GOp failed to train. While TVA understands that NERC and the SDT assigns more risk to non-compliance to these training requirements than was represented in PRC-001-1.1b, TVA believes the drafted thresholds escalate too aggressively. Also, the VSL for failing to train 4 individuals at a single site should be explicit. Given that the greater of the two thresholds for each VSL will apply to any non-compliance, TVA suggests changes to the drafted thresholds as follows.

- **Lower VSL**: (no change).
- **Moderate VSL**: 2 applicable personnel at a single site; or more than 5% and less than 15% of the total applicable personnel of the GOp.
- **High VSL**: 3 or 4 applicable personnel at a single site; or more than 15% and less than 25% of the total applicable personnel of the GOp.
- **Severe VSL**: 5 or more applicable personnel at a single site; or more than 25% of the total applicable personnel of the GOp.

Likes 0	
Dislikes 0	
Response	

The drafting team thanks you for your comment. The drafting team utilized a combination of percentages and individual personnel thresholds to provide a level of equity between all entities. The proposed Violation Severity Levels (VSL) in the PER-006-1 (*Specific Training for Personnel*) Reliability Standard align with the VSL Guideline published by NERC. The drafting team concluded that the VSLs thresholds did not need to be revised as suggested above.	
Chris Scanlon - Exelon - 1, Group Name Exelon Generation	
Answer	No
Document Name	
Comment	

Violation Risk Factor

The Violation Risk Factor (VRF) of Medium related to a failure to provide evidence of training for plant operators does not seem to meet the criteria for a Medium Risk factor unless the lack of that training causes an event to occur. A Medium Risk factor is defined as follows:

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

It would seem more appropriate for this to be considered a Low Risk factor as a lack of being able to provide evidence of training is administrative and is defined as:

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

requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature." **Violation Severity Level** The Violation Severity Levels (VSLs) should be enhanced to be explicit in the minimum elements of the training. If an entity provided any training at all it is conceivable that training (regardless of content) would be considered compliant. Exelon does not believe that is the intent of the SDT. Consider revising the technical basis to provide the minimum expectations for the content of the training and revising the VSL to be more specific to the lack of the training containing those elements.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comment. The drafting team notes the Violation Risk Factor / Violation Severity Level Justification document explains that the Violation Risk Factor of Medium is consistent with the training Requirements in the PER-005-2 (*Operations Personnel Training*) Reliability Standard, which includes the Balancing Authority, Generator Operator, Reliability Coordinator, and Transmission Operator. The content (i.e., operational functionality) of the training is determined by the entity. If the training is not in place, the violation would be binary (i.e., Severe); therefore, the VSLs are additionally gradated to have multiple levels of non-compliance based on percentage or number of individuals that did not receive training. The proposed VSLs in the PER-006-1 (*Specific Training for Personnel*) Reliability Standard align with the VSL Guideline published by NERC.

Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	No
Document Name	

Comment
The VSL for missing one operator at a facility with a large staff might mean missing less than 5% of the operators while at a small peaking or black start unit missing one operator could be 50% to 100% of the people at the site. We propose that he VSL would make more sense if the criteria for a single facility was a percentage of operators at that site missing training, rather than the number of personnel missing the training.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comment. The drafting team utilized a combination of percentages and individual personnel thresholds to provide a level of equity between all entities. The drafting team concluded that the Violation Severity Levels (VSL) thresholds did not need to be revised as suggested above.

Angela Gaines - Portland General Electric Co. - 3

Answer	No
Document Name	

Comment
Although PGE appreciates the flexibility that the Standard Drafting Team wrote into this standard, it is difficult to measure compliance as it is written. The current version of PER-006 does not indicate how the VSL will be used to measure compliance beyond the initial training specified by the implementation plan.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comment. The drafting team notes that compliance with the standard is based on the Generator Operator providing training to the applicable personnel. Subsequent to the initial training, the Generator Operator will determine when refresher or additional training is required.

Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5

Answer	No
Document Name	

Comment
It does not require the Generator Operator (GOP) to perform any verification activities of retention of the training following the training, nor does it address training refreshment. The results of this omission diverges from the structure established in PER-005-2 R1, R2, and R3, and would put the RE examiner in the position of testing all plant operators and assess their abilities to properly assign a VSL. It also follows that the RE examiner would have to be familiar with the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility. This could be a stretch for most examiners, and, at the very least, lengthen the time of preparation for examination.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comments. Requirement R1 of PER-006-1 (*Specific Training for Personnel*) does not require refreshment and is not intended to align with the systematic approach to training in PER-005-2 (*Operations Personnel Training*). The performance of the requirement is to provide training and not test the plant operator's retention of the training. Content of the operational functionality of the Protection Systems and Remedial Action Schemes (RAS) are the areas of focus and it is not intended for the auditor to question the depth of the content.

Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Engelby - ACES Power Marketing - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Gerry Adamski - Essential Power, LLC - 5	
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	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
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	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
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	

Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Bradley Collard - SunPower - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steve Rawlinson - Southern Indiana Gas and Electric Co. - 1	
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	
Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 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	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
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	
William Hutchison - Southern Illinois Power Cooperative - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	
Document Name	
Comment	
N/A	

Likes 0	
Dislikes 0	
Response	
N/A	

5. *Do the PER-006-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the Requirement? If not, please provide specific detail that would improve the Application Guidelines.*	
Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
Answer	No
Document Name	
Comment	
It does not require the Generator Operator (GOP) to perform any verification activities of retention of the training following the training, nor does it address training refreshment. The results of this omission diverges from the structure established in PER-005-2 R1, R2, and R3, and would put the RE examiner in the position of testing all plant operators and assess their abilities to properly assign a VSL. It also follows that the RE examiner would have to be familiar with the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility. This could be a stretch for most examiners, and, at the very least, lengthen the time of preparation for examination.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. Requirement R1 of PER-006-1 (*Specific Training for Personnel*) does not require refreshment and is not intended to align with the systematic approach to training in PER-005-2 (*Operations Personnel Training*). The performance of the requirement is to provide training and not test the plant operator's retention of the training. Content of the operational functionality of the Protection Systems and Remedial Action Schemes (RAS) are the areas of focus and it is not intended for the auditor to question the depth of the content.	
Don Schmit - Nebraska Public Power District - 5	
Answer	No

Document Name	
Comment	

Guidance and Technical Basis Section R1:

- "plant personnel" and "GOP" are used interchangeably throughout this Guidance and Technical Basis section. As identified on the commenting sessions with the drafting team, the drafting team identified that the control function may occur in various "entity configurations". Example given was that a central GOP dispatch center may be the function that controls the generator and not the plant itself. Suggest you change the use of "plant" to "GOP" and/or provide a qualifier for understanding.

- Paragraph 1: Sentence 2 that reads "To accomplish this, **plant personnel responsible for Real-time control and operation of a generating Facility** must understand how Protection Systems and Remedial Action Schemes (RAS) are applied and the affects they may have on a generating Facility". Remove **"and operation",** as this causes confusion as to whom is to be trained. Explanations during commmenting sessions was very confusing on whom this Standard applies. We do understand that there are different functional applications through the utility industry, however it would seem that the use of "Real-time" [a NERC defined term] indeed makes it clear that it is the "first responders" (first responders, a term used by the SDT in clarifying their position on this Standard). Note: remove "and operation" in subsequent paragraphs also.

- Paragraph 1, sentence 2 that reads: "To accomplish this, plant personnel responsible for Real-time control and operation of a generating Facility **must understand** how Protection Systems and Remedial Action Schemes (RAS) are applied and the affects they may have on a generating Facility." Delete **"must understand"** and insert **"must be trained on**". There is no testing associated with this Standard, only training. "must understand" implies a testing measurement function. This change lines up with the Requirment 1.

- Paragraph 2. Sentence that states "A periodicity for training is not specified in Requirement R1 because it is incumbent upon the GOP to ensure its plant personnel that have Real-time control and operation of a generator are trained in order to operate the plant". You are correct a periodocity is not specified and is also not a part of the Standard. The Requirement and its mesurement do not even imply retraining. Only the Guidance and Technical Basis and the RSAW address re-training. Please see the proposed addition in #1 of the 'Additional Comments' at the end of the commenting form for proposed addition to the Requirement 1. In addition the RSAW, in the 'Evidence Requested" section asks the auditor to verify documentation of changes or additions or Protection Systems and RAS during the compliance monitoring period (this RSAW requirement comes from

language in the Guidelines and Technical Basis section). This is not called out in the Standard and should be added to the R1-Mesurements or elsewhere in the Requirment.

- Paragraph 2, Second sentence that states “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service". Delete this sentence as training frequency is already covered in the sentence following the proposed deleted sentence. The two sentences contradict each other.
- Paragraph 2 Sentence that states “On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e.g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS". The RSAW ‘Note to Auditor’ section is explicit that Training should be updated for additions and changes. This does not meet the intent of the SDT (as noted in the sentence identified above "the GOP has the flexibility…"). As written this will lead to different audit practices throughout the industry. If the training is not updated, as the current RSAW language is written, this could be a violation in audit application. See #2 of the ‘Additional Comments’ section at the bottom of this commenting form for proposed RSAW change and in addition the already provided #1 in the ‘Additional Comments’ section below.

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your comment. The drafting team modified the second paragraph of the PER-006-1 (*Specific Training for Personnel*)Guidelines and Technical Basis (Supplemental Material Section of PER-006-1) to eliminate the confusion.

The phrase “and operation” has been deleted as it does not add any additional clarity.

The drafting team revised the Guidelines and Technical Basis to remove “understand” and replaced it with “be trained on how the operational functionality of” for clarity. The rationale box was not changed as it communicates the intent of the standard.

The Guidelines and Technical Basis has been revised to remove the sentence “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or Remedial Action Scheme (RAS) is placed into service” as noted in the above comment.

The drafting team has proposed to NERC Compliance to remove the sentence “Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies)” from the Reliability Standard Audit Worksheet (RSAW) to address this concern.	
Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO-NERC Standards Review Forum (NSRF)	
Answer	No
Document Name	
Comment	
Recommend the addition within Guidance and Technical Basis to align with the Section 4.1 of this Standard: **Requirement R1** The Generator Operator (GOP) monitors and controls its generating Facilities in Real-time to maintain reliability. To accomplish this, applicable plant personnel responsible for Real-time control and operation of a generating Facility must understand how Protection Systems and Remedial Action Schemes (RAS) are applied and the affects they may have on a generating Facility.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. The drafting team inserted the word “applicable” as referenced above to address the comment.	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	

Comment
The Application Guidelines should be revised to preclude the RSAW conflict discussed above, i.e. directly stating that Facility-specific course materials are not obligatory.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comment. The drafting team has proposed edits to the Reliability Standard Audit Worksheet (RSAW), a NERC Compliance document, to address the perceived inconsistency between Guidelines and Technical Basis (Supplemental Material section of PER-006-1) and the RSAW.

Chris Scanlon - Exelon - 1, Group Name Exelon Generation

Answer	No
Document Name	

Comment
Exelon requests that the SDT be more specific regarding the applicable systems that would fall within the scope of PER-006-1. The current draft provides an exclusion for those protective systems which trip breakers serving station auxiliary loads, secondary unit substations or low switchgear transformers and relays protecting other downstream plant electrical distribution system components (even if a trip of these devices might result in a trip of the unit); however it, does not address the following: 1. Protection systems associated with station auxiliary transformers that supply the station and are fed by external power IF the protection system would open breakers that affect the Bulk Electric System (BES) (e.g., the breakers feed into a ring bus). [Note this does not include a transformer fed from a radial line]. Trip of these transformers may or may not trip the unit depending on the plant design.

2. Protection systems associated with unit auxiliary transformers that supply the station and are fed by the generating unit. In this case the trip of the auxiliary transformer would directly trip the generating unit.

Furthermore, the considerations for operational functionality should list the minimum training elements required – not provide the latitude for an auditor or entity to interpret what should be considered.

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your comment. The drafting team notes that Requirement R1 of PER-006-1 (*Specific Training for Personnel*) only includes the Protection Systems and Remedial Action Schemes (RAS) that "affect the output" (i.e., generator to BES) of the generating Facility and not those systems associated with the unit auxiliary transformer, whether fed locally or remotely. The drafting team feels that entities are most qualified to develop training content for plant personnel. The Guidelines and Technical Basis (Supplemental Material section of PER-006-1) provides a suggested list of elements to consider when training on the operational functionality.

M Lee Thomas - Tennessee Valley Authority - 5

Answer	No
Document Name	

Comment

No "Application Guidelines" were found in the standard. This answer is based on the assumption that the question intended to reference the "Guidelines and Technical Basis."

The second sentence of the second paragraph of the Guidelines and Technical Basis states,

"The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service."

While the interpretation provided here is appreciated, TVA does not agree with the premise of the statement. If the intention of the SDT is to require GOP personnel receive training before a Protection System or RAS is placed into service, then R1 or a sub-requirement should state this explicitly, which would comport with maintaining Reliability of the BES. Further, the next sentence states, "On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e .g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS." The “flexibility” given the GOP in this sentence “concerning new systems” is inconsistent with the previous sentence and creates ambiguity regarding when training for new systems is required. The phrase “ongoing basis” would imply the statement is addressing training after a Protection System or RAS has been placed into service, but the parenthetical “concerning new systems” creates the inconsistency.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. The Guidelines and Technical Basis (Supplemental Material section of PER-006-1) has been revised to remove the sentence “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service” as noted in the above comment. The drafting team also modified the subsequent sentence to clarify the intent.	
Jamison Cawley - Nebraska Public Power District - 1	
Answer	No
Document Name	
Comment	

Guidance and Technical Basis Section R1:

- "plant personnel" and "GOP" are used interchangeably throughout this Guidance and Technical Basis section. As identified on the commenting sessions with the drafting team, the drafting team identified that the control function may occur in various "entity configurations". Example given was that a central GOP dispatch center may be the function that controls the generator and not the plant itself. Suggest you change the use of "plant" to "GOP" and/or provide a qualifier for understanding.

- Paragraph 1: Sentence 2 that reads "To accomplish this, **plant personnel responsible for Real-time control and operation of a generating Facility** must understand how Protection Systems and Remedial Action Schemes (RAS) are applied and the affects they may have on a generating Facility". Remove **"and operation",** as this causes confusion as to whom is to be trained. Explanations during commmenting sessions was very confusing on whom this Standard applies. We do understand that there are different functional applications through the utility industry, however it would seem that the use of "Real-time" [a NERC defined term] indeed makes it clear that it is the "first responders" (first responders, a term used by the SDT in clarifying their position on this Standard). Note: remove "and operation" in subsequent paragraphs also.

- Paragraph 1, sentence 2 that reads: "To accomplish this, plant personnel responsible for Real-time control and operation of a generating Facility **must understand** how Protection Systems and Remedial Action Schemes (RAS) are applied and the affects they may have on a generating Facility." Delete **"must understand"** and insert **"must be trained on**". There is no testing associated with this Standard, only training. "must understand" implies a testing measurement function. This change lines up with the Requirment 1.

- Paragraph 2. Sentence that states "A periodicity for training is not specified in Requirement R1 because it is incumbent upon the GOP to ensure its plant personnel that have Real-time control and operation of a generator are trained in order to operate the plant" . You are correct a periodocity is not specified and is also not a part of the Standard. The Requirement and its mesurement do not even imply retraining. Only the Guidance and Technical Basis and the RSAW address re-training. Please see the proposed addition in #1 of the 'Additional Comments' at the end of the commenting form for proposed addition to the Requirement 1. In addition the RSAW, in the 'Evidence Requested" section asks the auditor to verify documentation of changes or additions or Protection Systems and RAS during the compliance monitoring period (this RSAW requirement comes from language in the Guidelines and Technical Basis section). This is not called out in the Standard and should be added to the R1-Mesurements or elsewhere in the Requirment.

- Paragraph 2, Second sentence that states “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service". Delete this sentence as training frequency is already covered in the sentence following the proposed deleted sentence. The two sentences contradict each other.
- Paragraph 2 Sentence that states “On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e.g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS". The RSAW ‘Note to Auditor’ section is explicit that Training should be updated for additions and changes. This does not meet the intent of the SDT (as noted in the sentence identified above "the GOP has the flexibility…"). As written this will lead to different audit practices throughout the industry. If the training is not updated, as the current RSAW language is written, this could be a violation in audit application. See #2 of the ‘Additional Comments’ section at the bottom of this commenting form for proposed RSAW change and in addition the already provided #1 in the ‘Additional Comments’ section below.

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your comment. The drafting team modified the second paragraph of the Guidelines and Technical Basis (Supplemental Material section of PER-006-1) to eliminate the confusion.

The phrase “and operation” has been deleted as it does not add any additional clarity.

The drafting team thanks you for your suggestions. Requirement R1 of PER-006-1 (*Specific Training for Personnel*) does not require refresher training and is not intended to align with the systematic approach to training in PER-005-2 (*Operations Personnel Training*).

The Guidelines and Technical Basis has been revised to remove the sentence “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service” as noted in the above comment.

The drafting team has proposed edits to the Reliability Standard Audit Worksheet (RSAW), a NERC Compliance document, to address the inconsistency between PER-006-1, Requirement R1 and the RSAW.

Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	No
Document Name	
Comment	
The application guidelines lack a true description of who the standard applies to. The NERC Functional Model defines Generator Operator as: "The functional entity that operates generating unit(s) and performs the functions of supplying energy and reliability related services." Question arises does this apply only to registered entities of the "Generator Operator" regardless of their voltage level, generation capacity and point of interconnection with the BES?	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. The PER-006-1 (*Specific Training for Personnel*) Reliability Standard is applicable to registered Generator Operators regardless of voltage, generating capacity, or point of interconnection. The standard further applies to Facilities that meet the definition of “Bulk Electric System” (BES).	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	No
Document Name	
Comment	
Kansas City Power and Light Company recommends withdrawal of PER-006-1 and its associated guidelines, making the Application Guidelines moot.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comments.	
Ben Engelby - ACES Power Marketing - 6	
Answer	No
Document Name	
Comment	
We recommend that the drafting team clarify in the Application Guidelines for Requirement R1 that one-time training is required for applicable plant personnel. There is nothing in the language of the requirement to require additional, continuing, and/or retraining to occur. The RSAW has made an assumption that retraining is required, which needs to be corrected to align with the requirement. If the SDT does intend for additional, continuing and/or retraining, this would be a substantive change and would require another posting of the revised requirement for industry comment and ballot.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. The drafting team has proposed edits to the Reliability Standard Audit Worksheet (RSAW), a NERC Compliance document, to address the inconsistency between PER-006-1 (*Specific Training for Personnel*), Requirement R1 and the RSAW.	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
Answer	Yes

Document Name	PER_006_1_System_Protection_Draft_1_FE Comments.docx

Comment

FirstEnergy Comments

PER-006-1 – Specific Training for Personnel

Draft 1 – Ballot Ending April 25, 2016

The following comments are offered to the NERC Standard Draft Team (SDT) to support why FirstEnergy (FE) has voted NEGATIVE on the 1st Draft version of PER-006-1. Our comments also offered suggested revisions in order for FE to support the standard.

1. The 2nd paragraph of the Guidelines and Technical Basis section includes the statement *"The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service."* FE recommends the text be deleted as it is inconsistent with the R1 requirement as presented in Draft 1. This statement adds additional obligations not within the standard. Nowhere in the requirement language is this "dictated" or required. Additionally, this could raise questions to when training is needed for revised Protection Systems that may only include minor setting changes for coordination improvement but no material change in the intended outcome of the protection scheme.

2. The Guidelines and Technical Basis section offers 6 bullet listed items/topics for consideration for training intended to cover the "operational functionality" of a Protection System or RAS. FE offers a re-write of this area to place greater emphasis on the first and last bulleted items which we believe are the most appropriate areas to cover with generation plant operators. The other four items are more technical and design/engineering details that should be more clearly optional.

3. As a minor note, FE suggests adding the word "Operations" in the standard title to read "Specific Training for Operations Personnel". Doing so would better compliment the PER-005-2 standard which is titled "Operations Personnel Training" which focuses on a systematic approach to training for reliability related tasks.

The attached file includes an excerpt of the Draft 1 PER-006-1 standard with suggested red-line edits to the Guidelines and Technical Basis section.

If the SDT wishes to discuss FE's comments please contact Doug Hohlbaugh, Manager, Reliability Compliance at 330-384-4698.

Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. The PER-006-1 (*Specific Training for Personnel*) Guidelines and Technical Basis (see Supplemental Material section of PER-006-1) has been revised to remove the sentence "The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service" as noted in the above comment. The drafting team notes that the considerations of operational functionality are examples and are provided for guidance. The drafting team avoided the term "operations" in the title because PER-005-2 (*Operations Personnel Training*) already uses this to define the personnel and that PER-006-1 could potentially be used for other specific training requirements.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	Yes
Document Name	
Comment	
No Comment	
Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1,5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Hutchison - Southern Illinois Power Cooperative - 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	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
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	
Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Steve Rawlinson - Southern Indiana Gas and Electric Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bradley Collard - SunPower - 5	
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 1	PSEG - Public Service Electric and Gas Co., 1, Smith Joseph
Dislikes 0	
Response	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
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	
Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
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	
Gerry Adamski - Essential Power, LLC - 5	
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	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3
Answer	
Document Name	
Comment
N/A
Likes 0	
Dislikes 0	
Response

6. *Do you agree with implementation period (i.e., 12 months) of the proposed PER-006-1 Reliability Standard and the proposed definition modifications of OPA and RTA based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation periods.*	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	No
Document Name	
Comment	
Duke Energy does not believe that an Implementation Plan of 12 months is appropriate for the amount of work that would be involved for larger utilities with numerous generating facilities. An entity would need time to develop additional training materials (in addition to what is already in use for compliance with PRC-001-1.1(ii)) with specificity for each of its generating facilities, and then administer said training to all applicable operators within a 12 month timeframe. A significant amount of time would need to be allotted to accomplish develop and distribute the additional required tasks, much more than the proposed 12 months.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment and has increased the implementation period to 24 months.	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	

Comments: As currently worded, the modification of OPA and RTA may require entities to collect and include a large, voluminous set of data in their RTAs and OPAs. This would require entities to make modeling and Energy Management System changes to accommodate all the relay information, which would require time to upgrade technology. Taking into account budgeting, design, and implementation, the time necessary to upgrade this technology could run 24 to 36 months.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment and has increased the implementation period to 24 months.	
M Lee Thomas - Tennessee Valley Authority - 5	
Answer	No
Document Name	
Comment	
A period of 12 months is too short to generate operator lists, identify the "Set of Protection Systems and Remedial Action Schemes" and to create and roll out a new training program. Suggest at least a 24 month period.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment and has increased the implementation period to 24 months. The drafting team has also proposed the removal of the "Set of Protection Systems and Remedial Action Schemes from the evidence section of the RSAW, a NERC Compliance document.	

Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	No
Document Name	
Comment	

PSEG thanks the drafting team for its efforts and appreciates having the opportunity to comment on the proposed OPA and RTA definitions. PSEG is in general agreement with the intent of the proposed OPA and RTA definitions as it applies to the inclusion of Protection Systems and RASs in evaluations and assessments (that would be conducted by operations personnel). The wording of the current version of each definition states that OPA evaluations and RTA assessments "…shall reflect applicable inputs including… known Protection System and Remedial Action Scheme status or degradation, functions, and limits…". PSEG agrees that OPAs and RTAs should include the status or degradation of known protection systems and RASs. Additionally, we believe that inclusion of the "functions and limits" of RASs in OPAs and RTAs would improve reliability. However, it is requested that the requirement to include the "functions and limits" of [all] known Protection Systems be removed from the OPA and RTA definitions. As they are currently written, the definitions imply that the (operations) personnel who perform OPAs and RTAs would require detailed information regarding the settings for all protection systems (or schemes) that are within their scope of operations in order to complete OPAs and RTAs. PSEG does not believe that this level of detail regarding [all] protection systems is necessary in OPAs and RTAs in order to maintain reliability of the BES. PSEG therefore proposes that the definitions be revised as follows:

Operational Planning Analysis (OPA)

An evaluation of projected system conditions to assess anticipated (pre-Contingency) and potential (post-Contingency) conditions for next-day operations. The evaluation shall reflect applicable inputs including, but not limited to**:** load forecasts; generation output levels; Interchange; known Protection System status or degradation; and **Remedial Action Scheme** status or degradation**, functions, and limits**; Transmission outages; generator outages; Facility Ratings; and identified phase angle and equipment limitations. (Operational Planning Analysis may be provided through internal systems or through third-party services.)

Real-time Assessment (RTA)

An evaluation of system conditions using Real-time data to assess existing (pre-Contingency) and potential (post-Contingency) operating conditions. The assessment shall reflect applicable inputs including, but not limited to: load**;** generation output levels**;** known

Protection System status or degradation; and **Remedial Action Scheme** status or degradation**, functions, and limits;** Transmission outages**;** generator outages**;** Interchange**;** Facility Ratings**;** and identified phase angle and equipment limitations. (Real-time Assessment may be provided through internal systems or through third-party services.) PSEG, Segment(s) 5, 6, 1, 3, 3/10/2016	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment and notes that Reliability Standards IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) for the Reliability Coordinator and TOP-003-3 (*Operational Reliability Data*) for the Transmission Operator, Requirements R1, Parts 1.2 are one method in which Protection Systems and Remedial Action Schemes become inputs into the Operational Planning Analysis and Real-time Assessment. However, the Reliability Coordinator and Transmission Operator may have additional Protection Systems and Remedial Action Schemes included as inputs and those too would be in purview. The limits and functions pertain to these Protection Systems and Remedial Action Schemes within its documented data specification; therefore, the suggested modification would further narrow the intent and does not address the reliability objective in PRC-001-1.1(ii) (*System Protection Coordination*), Requirement R1 that includes Protection Systems.	
Diana McMahon - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
In alignment with the recent training related implementation plans, 24 months is more realistic to incorporate new requirements into existing training programs.	
Likes 0	

Dislikes 0	

Response
The drafting team thanks you for your comment and has increased the implementation period to 24 months.

Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG

Answer	No
Document Name	

Comment

PSEG thanks the drafting team for its efforts and appreciates having the opportunity to comment on the proposed OPA and RTA definitions. PSEG is in general agreement with the intent of the proposed OPA and RTA definitions as it applies to the inclusion of Protection Systems and RASs in evaluations and assessments (that would be conducted by operations personnel). The wording of the current version of each definition states that OPA evaluations and RTA assessments "…shall reflect applicable inputs including… known Protection System and Remedial Action Scheme status or degradation, functions, and limits…". PSEG agrees that OPAs and RTAs should include the status or degradation of known protection systems and RASs. Additionally, we believe that inclusion of the "functions and limits" of RASs in OPAs and RTAs would improve reliability. However, it is requested that the requirement to include the "functions and limits" of [all] known Protection Systems be removed from the OPA and RTA definitions. As they are currently written, the definitions imply that the (operations) personnel who perform OPAs and RTAs would require detailed information regarding the settings for all protection systems (or schemes) that are within their scope of operations in order to complete OPAs and RTAs. PSEG does not believe that this level of detail regarding [all] protection systems is necessary in OPAs and RTAs in order to maintain reliability of the BES. PSEG therefore proposes that the definitions be revised as follows:

Operational Planning Analysis (OPA)

An evaluation of projected system conditions to assess anticipated (pre-Contingency) and potential (post-Contingency) conditions for next-day operations. The evaluation shall reflect applicable inputs including, but not limited to**:** load forecasts; generation output levels; Interchange; known Protection System status or degradation; and **Remedial Action Scheme** status or degradation**, functions,**

and limits; Transmission outages; generator outages; Facility Ratings; and identified phase angle and equipment limitations. (Operational Planning Analysis may be provided through internal systems or through third-party services.) **Real-time Assessment (RTA)** An evaluation of system conditions using Real-time data to assess existing (pre-Contingency) and potential (post-Contingency) operating conditions. The assessment shall reflect applicable inputs including, but not limited to: load**;** generation output levels**;** known Protection System status or degradation; and **Remedial Action Scheme** status or degradation**, functions, and limits;** Transmission outages**;** generator outages**;** Interchange**;** Facility Ratings**;** and identified phase angle and equipment limitations. (Real-time Assessment may be provided through internal systems or through third-party services.)

Likes 1	PSEG - Public Service Electric and Gas Co., 1, Smith Joseph
Dislikes 0	

Response
The drafting team thanks you for your comment and notes that Reliability Standards IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) for the Reliability Coordinator and TOP-003-3 (*Operational Reliability Data*) for the Transmission Operator, Requirements R1, Parts 1.2 are one method in which Protection Systems and Remedial Action Schemes become inputs into the Operational Planning Analysis and Real-time Assessment. However, the Reliability Coordinator and Transmission Operator may have additional Protection Systems and Remedial Action Schemes included as inputs and those too would be in purview. The limits and functions pertain to these Protection Systems and Remedial Action Schemes within its documented data specification; therefore, the suggested modification would further narrow the intent and does not address the reliability objective in PRC-001-1.1(ii) (*System Protection Coordination*), Requirement R1 that includes Protection Systems.

Thomas Foltz - AEP - 5

Answer	No
Document Name	

Comment

An implementation plan of 12 months is insufficient, as it may not allow larger entities adequate time to improve the existing training program under PRC-001 R1. This shortened duration may force large entities to continue utilizing PRC-001 training processes for PER-006-1, which may not meet the auditor's intent. Instead, AEP recommends that a 4 year phased implementation period for the Standard be incorporated as follows: specific training of personnel would consist of 40% within 12 months, 60% within 24 months, 80% within 36 months, and 100% within 48 months following the effective date of the Standard.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment and has increased the implementation period to 24 months.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	Yes
Document Name	
Comment	
No Comment	
Likes 0	
Dislikes 0	
Response	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	

Answer	Yes
Document Name	
Comment	
No comments.	
Likes 0	
Dislikes 0	
Response	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Engelby - ACES Power Marketing - 6	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gerry Adamski - Essential Power, LLC - 5	
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	
RoLynda Shumpert - SCANA - South Carolina Electric and Gas Co. - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
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	
Jamison Cawley - Nebraska Public Power District - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bradley Collard - SunPower - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steve Rawlinson - Southern Indiana Gas and Electric Co. - 1	
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	
Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Don Schmit - Nebraska Public Power District - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Angela Gaines - Portland General Electric Co. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
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	

William Hutchison - Southern Illinois Power Cooperative - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

John Fontenot - Bryan Texas Utilities - 1,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	

7. Are you aware of any conflicts between the proposed PER-006-1 Reliability Standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.	
Thomas Foltz - AEP - 5	
Answer	No
Document Name	
Comment	
AEP is not aware of any potential conflicts between the proposed PER-006-1 Reliability Standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	No
Document Name	
Comment	
No comments.	
Likes 0	

Dislikes 0	
Response	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	No
Document Name	
Comment	
No Comment	
Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Angela Gaines - Portland General Electric Co. - 3	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	No
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	No

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steve Rawlinson - Southern Indiana Gas and Electric Co. - 1	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bradley Collard - SunPower - 5	
Answer	No
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Diana McMahon - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Chris Scanlon - Exelon - 1, Group Name Exelon Generation	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

M Lee Thomas - Tennessee Valley Authority - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	No

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Czyz - Oglethorpe Power Corporation - 5	
Answer	No
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Gerry Adamski - Essential Power, LLC - 5	
Answer	No
Document Name	
Comment	
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	

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	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Engelby - ACES Power Marketing - 6	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Hutchison - Southern Illinois Power Cooperative - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	

8. ***Are you aware of the need for a regional variance or business practice that should be considered with this project? If so, please identify it here.***	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	No
Document Name	
Comment	
No Comment	
Likes 0	
Dislikes 0	
Response	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	No
Document Name	
Comment	
No comments.	
Likes 0	
Dislikes 0	

Response	
Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	No
Document Name	
Comment	
AEP is not aware of any potential need for a regional variance or business practice that should be considered with this project.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment.	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leo Bernier - AES - AES Corporation - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Jennifer Losacco - NextEra Energy - Florida Power and Light Co. - 1 - FRCC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Engelby - ACES Power Marketing - 6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	No
Document Name	
Comment	
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	
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	
Likes 0	
Dislikes 0	
Response	
Gerry Adamski - Essential Power, LLC - 5	

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Czyz - Oglethorpe Power Corporation - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	No

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7 - NPCC, Group Name RSC No NextEra	
Answer	No
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Riley - Associated Electric Cooperative, Inc. - 1,3,5,6	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
M Lee Thomas - Tennessee Valley Authority - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Chris Scanlon - Exelon - 1, Group Name Exelon Generation	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Venona Greaff - Oxy - Occidental Chemical - 7, Group Name Oxy	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Doug Hohlbaugh - FirstEnergy - Ohio Edison Company - 4	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Tim Kucey - PSEG - PSEG Fossil LLC - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Diana McMahon - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Christy Koncz - Public Service Enterprise Group - 1,3,5,6 - NPCC,RF, Group Name PSEG	

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bradley Collard - SunPower - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steve Rawlinson - Southern Indiana Gas and Electric Co. - 1	
Answer	No

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	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Brad Lisembee - Southern Indiana Gas and Electric Co. - 6	
Answer	No
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Rob Collins on Behalf of: Scotty Brown, Southern Indiana Gas and Electric Co., 1, 6, 5, 3	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli on Behalf of: Peter Colussy, Xcel Energy, Inc. , 6	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Angela Gaines - Portland General Electric Co. - 3	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Catrina Martin - Utility System Efficiencies, Inc. (USE) - 5	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	Yes
Document Name	
Comment	
Within the province of Ontario, many Ontario Market Rules published by Ontario's Independent Electricity System Operator (IESO) contain requirements that mandate adequate knowledge of system operating staff. Hence, in Ontario, the IESO Market Rules already encompass many of the requirements in this standard for Generator Operators. Similarly, other ISOs may also have pre-defined requirements for operators within their jurisdictions to hold their system operating staff accountable for prior to issuing a transmission or generating license.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
William Hutchison - Southern Illinois Power Cooperative - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Minh Ngo - City of Garland - 3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

9. *If you have any other comments not previously mentioned above, please provide them here:*	
John Fontenot - Bryan Texas Utilities - 1,5	
Answer	
Document Name	
Comment	
na	
Likes 0	
Dislikes 0	
Response	
William Hutchison - Southern Illinois Power Cooperative - 1	
Answer	
Document Name	
Comment	
In agreement with comments submitted by ACES.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comments. Please see the responses to the comments provided by ACES.	
Erika Doot - U.S. Bureau of Reclamation - 5	
Answer	
Document Name	
Comment	
Reclamation supports the drafting team's effort to move the GOP Protection System training requirement to a Personnel Performance, Training, and Qualification (PER) standard. Reclamation suggests that in the future, PER-006 could be revised to include other one-off GOP training requirements, like the minimum of two hours of GOP blackstart training required every two calendar years in EOP-005 R17. Reclamation appreciates the drafting team's industry outreach and approach to relying on the existing PER-005-2 Systematic Approach to Training standard to replace PRC-001 R1 for BAs, RCs, TOPs, and GOP centrally located dispatch centers, rather than creating duplicative requirements.	
Likes 0	
Dislikes 0	
Response	
Thank you for your suggestion, comment, and support.	
Thomas Foltz - AEP - 5	
Answer	
Document Name	
Comment	

AEP supports the overall efforts and direction of the project team. Our negative vote on the standard is driven solely by our objections to the implementation plan, as expressed in our response to Question #6.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comment and has increased the implementation period to 24 months.

Randi Heise - Dominion - Dominion Resources, Inc. - 5, Group Name Dominion - RCS

Answer	
Document Name	

Comment
PER-006-1; Top of Page 4 says; “When this standard receives Board adoption, the rationale boxes will be moved to the Supplemental Material section of the standard.” Is this the most updated NERC template, from other standards we have reviewed, we thought that the Rationale boxes were going to stay with the Requirements after approved. Please advise.

Likes 0	
Dislikes 0	

Response
Thank you for your comments. The rationale boxes are moved to the “Supplemental Material” section of the standard. In some cases, the rational information for a previous version of the standard may be removed by the drafting team revising said standard.

Angela Gaines - Portland General Electric Co. - 3

Answer	
Document Name	
Comment	
• The RSAW requests documentation of Protection System and RAS changes, but there is no mention of how the auditors will use this list to measure compliance if there is no frequency for training. As the standard is written, there is no timeframe for training operators on these changes. • Without any requirement in this standard for the TOP to notify the GOP of changes to the Protection Systems and RAS, PGE sees a gap in the compliance monitoring for this when the TOP for several plants is a different entity.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments. The drafting team has proposed edits to the Reliability Standard Audit Worksheet (RSAW), a NERC Compliance document, to address the inconsistency between Requirement R1 and the RSAW. The drafting team notes that how the Generator Operator becomes informed of Protection System and Remedial Action Scheme changes are not within scope of this project.	
Don Schmit - Nebraska Public Power District - 5	
Answer	
Document Name	
Comment	
ADDITIONAL COMMENTS:	

#1: Suggessted sub-requirement for this Standard under R1

R1.1: the Generator Operator shall determine when its plant personnel need to receive additional training, such as new systems, replacements, technology and operational functionality, of Protection Systems and RAS.

Add the following to Measurement 1: Documentation of changes or additions during the compliance monitoring period that effect the output of the generating facility(ies).

#2:

Within the proposed PER-006-1 RSAW in relation to R1, there is a note to the auditor (page 5), which states that "Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes that affect the output of the Facility".

The Guidelines and Technical Basis within the Standard, under R1, (page 9 of 10, second paragraph) states "On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e.g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS".

To maintain the intent of the drafting team we propose that the *note to the auditor* reflect the drafting teams intent from the Guidelines and Technical Basis section. We recommend the following wording that reflects the SDT's intent:

NOTE TO AUDITOR: Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes that affect the output of the Facility; however the Generator Operator has the flexibility to determine when its personnel need to receive additional training (new systems, replacements, technology, and operational functionality) on the operational functionality of Protection Systems and RAS.

Likes 0	
Dislikes 0	

Response

The drafting team thanks you for your suggestions. Requirement R1 does not require refresher training and allows the Generator Operator to determine if or when to perform refresher or additional training.

The drafting team has proposed edits to the RSAW, a NERC Compliance document, to address the inconsistency between Requirement R1 and the RSAW. The Guidelines and Technical Basis has been revised to remove the sentence “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service” as noted in the above comment.

Emily Rousseau - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO-NERC Standards Review Forum (NSRF)	
Answer	
Document Name	
Comment	
Within the proposed PER-006-1 RSAW in relation to R1, there is a note to the auditor (page 5), which states that “Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes that affect the output of the Facility”. The Guidelines and Technical Basis within the Standard, under R1, (page 9 of 10, second paragraph) states “On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e.g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS”. The NSRF wants to maintain this intent of the drafting team and we propose that the *note to the auditor* reflect the drafting teams intent from the Guidelines and Technical Basis section. The NSRF recommends the following wording that reflects the SDT’s intent. NOTE TO AUDITOR: Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes that affect the output of the Facility; **however the Generator Operator has the flexibility to determine when its personnel need to receive additional training (new systems, replacements, technology, and operational functionality) on the operational functionality of Protection Systems and RAS.** (Bold is additional recommended text.)	
Likes 0	
Dislikes 0	
Response	

The drafting team has proposed to NERC Compliance to remove the sentence "Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies)" from the RSAW to address this concern.	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	
Document Name	
Comment	

Even though the PER-006-1 draft standard aids in ensuring that personnel are trained on specific topics essential to reliability to perform or support Real-time operations of the BES, ReliabilityFirst believes the requirement fall short as there is no periodicity of training noted in the requirement. ReliabilityFirst provides the following comments for consideration:

1. Requirement R1
    i. Even though the "Guidelines and Technical Basis" states "The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service.", the actual requirement has no periodicity requirements. If the true intent of the SDT is to have the GOP personnel receive training before the Protection Systems or RAS is placed into service, ReliabilityFirst believes this language should be added to the Requirement. ReliabilityFirst also seeks clarification on the timing of when new personal are required to receive this training (e.g., is it required prior to going on shift for the first time). Also is it the expectation of the SDT that existing personal are required to receive this training by the time this standard becomes effective? If this is the case, the SDT may want to consider including this in the Implementation Plan. ReliabilityFirst offers the following for consideration:
        a. Each Generator Operator shall provide training to personnel identified in Applicability section 4.1.1.1., on the operational functionality of Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies) it operates, [either prior to new personnel going on shift for the first time or prior to Protection Systems or RAS placed into service].

Likes 0	

Dislikes 0	
Response	
The drafting team thanks you for your comments. Requirement R1 does not require refresher training and is not intended to align with the systematic approach to training in PER-005 (*Operations Personnel Training*). The performance of the requirement is to provide training and not test the plant operator's retention of the training. Content of the operational functionality of the Protection Systems and Remedial Action Schemes are the areas of focus and it is not intended for the auditor to question the depth of the content. The Guidelines and Technical Basis has been revised to remove the sentence "The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service" as noted in the above comment.	
Katherine Prewitt - Southern Company - Southern Company Services, Inc. - 1, Group Name Southern Company	
Answer	
Document Name	
Comment	
Southern Company is in agreement with the draft standard PER-006-1 and revisions to the definitions of "Operational Planning Analysis" (OPA) and "Real-time Assessment" (RTA).	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	

Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council- Standards Review Committee (SRC).	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the response to the comments submitted by ISO/RTO Council- Standards Review Committee (SRC).	
William Temple on Behalf of: Mark Holman, PJM Interconnection, L.L.C., 2	
Answer	
Document Name	
Comment	
PJM supports the comments submitted by the ISO/RTO Council- Standards Review Committee (SRC).	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comment. Please see the response to the comments submitted by ISO/RTO Council- Standards Review Committee (SRC).	
Diana McMahon - Salt River Project - 1,3,5,6 - WECC	

Answer	
Document Name	
Comment	
Thank you to the SDT for breaking this out and creating a new PER standard. SRP supports this action and appreicates the efforts taken to make this happen.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Jeri Freimuth - APS - Arizona Public Service Co. - 3	
Answer	
Document Name	
Comment	
With regard to the structure of PER-006-1: In this case, a new standard, containing a single requirement, is proposed to require GOPs train on “operational functionality specific to Protection Systems and Remedial Action Schemes and their effects on generating Facilities.” This is a deviation from past practice whereby prior GOP training requirements, such as that for system restoration from Blackstart Resources (EOP-005-2, R17) and communication (COM-002-4, R3), have been included with the subject matter material as opposed to a Personnel Performance, Training and Qualifications (PER) standard. APS recommends NERC consider (as part of a future effort and assuming PER-006-1 is adopted) whether it would make sense to migrate all GOP training requirements under PER-006-1. Alternatively, this training requirement could be placed within an appropriate Protection and Control (PRC) standard, although with the retirement of PRC-001-1(ii), there does not appear to be an ideal location for this requirement.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The drafting team feels that the PER (*Personnel Performance, Training, and Qualifications*) family of Reliability Standards is the appropriate place for the requirement.	
Chris Scanlon - Exelon - 1, Group Name Exelon Generation	
Answer	
Document Name	
Comment	
The SDT needs to ensure that the RSAW aligns with PER-006-1 intent. Currently the draft RSAW for PER-006-1 specifies the following evidence requested to demonstrate compliance. "Documentation of changes or additions during the compliance monitoring period to Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies)." This requested evidence does not align with the current version of PER-006-1. Per the "Guidelines and Technical Basis" the "periodicity for training is not specified in Requirement R1 because it is incumbent upon the GOP to ensure its plant personnel … … are trained in order to operate the plant." And further states that "the GOP has the flexibility to determine when its plant personnel need to receive additional training (e.g., concerning new systems, replacements, technology and operational functionality changes, etc.)" Although it would seem entirely reasonable for a functional change to warrant additional training, the evidence request in the RSAW could be broadly interpreted that ALL changes, regardless of impact or non-impact to the functionality of the Protection System, would require training prior to implementation. This is an unnecessary burden on the GOP and in Exelon's opinion was not the intent of the SDT.	
Likes 0	

Dislikes 0	
Response	
The drafting team thanks you for your comment and has proposed edits to the Reliability Standard Audit Workshop (RSAW), a NERC Compliance document, to address the perceived inconsistency between Guidelines and Technical Basis and the RSAW.	
M Lee Thomas - Tennessee Valley Authority - 5	
Answer	
Document Name	
Comment	

The purpose of the standard as drafted in section A.3, “topics essential to Reliability to perform or support,” is worded awkwardly. The topics are not directly essential to Reliability. Performance and support of Real-Time operations should be the subject of the topics. The standard should apply to training on topics regarding only those Real-time operations that are essential to Reliability of the BES. Accordingly, TVA suggests the purpose should state, “To ensure that personnel are trained on specific topics regarding performance or support of Real-time operations essential to reliability of the Bulk Electric System.”

The RSAW requires the following evidence:

- Identification of responsible personnel
- Identification of the set of Protection Systems and Remedial Action Schemes that affect the output of the generating facility(ies).
- Evidence that the identified personnel completed the training
- Documentation of changes or additions to the identified Protection Systems and Remedial Action Schemes

This expectation is presented in both the “Evidence Requested,” and in the “Assessment Approach” sections of the RSAW. However, this seems to introduce new requirements and measurements in the RSAW beyond what is stated in the draft standard. The measurement of compliance as stated in the standard is simply that,

“Each Generator Operator shall have available for inspection, evidence that the applicable personnel completed training.”

TVA acknowledges that maintaining a list of applicable personnel is essential to meeting the stated measure. However, the RSAW expectation to provide a list of Protection Systems and Remedial Action Schemes, as well as documentation of changes or additions to these systems, expands the scope of required evidence to include the adequacy of the training content, which is not addressed in either in the Requirement or the Measure as drafted. At first blush, these new requirements appear to be supported by the statement in the "Guidelines and Technical Basis" section of the standard which states,

"The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service."

However, it is immediately refuted by the next sentence which states,

"On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e .g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS."

TVA respectfully requests that the drafted standard (Measure and Guidelines/Basis) and the RSAW be aligned to remove the ambiguity, 1) between statements in the Guidelines and Technical Basis as previously described, and 2) between the RSAW and the standard Measure. The RSAW should be revised to remove expectations for maintaining documentation of the set of Protection Systems and Remedial Action Schemes and changes or additions to these systems and schemes.

Likes 0	
Dislikes 0	
Response	

The drafting team thanks you for your comments and believes the purpose statement in its current form provides sufficient clarity. The purpose statement is meant to be general enough to allow future requirements to be incorporated into PER-006-1 (*Specific Training for Personnel*). The drafting team has proposed edits to the RSAW, a NERC Compliance document, to address the inconsistency between Measure M1 and the RSAW. The Guidelines and Technical Basis has been revised to remove the sentence "The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service" as noted in the above comment.

Jamison Cawley - Nebraska Public Power District - 1	
Answer	
Document Name	
Comment	
ADDITIONAL COMMENTS: #1: Suggessted sub-requirement for this Standard under R1 R1.1: the Generator Operator shall determine when its plant personnel need to receive additional training, such as new systems, replacements, technology and operational functionality, of Protection Systems and RAS. Add the following to Measurement 1: Documentation of changes or additions during the compliance monitoring period that effect the output of the generating facility(ies). #2: Within the proposed PER-006-1 RSAW in relation to R1, there is a note to the auditor (page 5), which states that "Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes that affect the output of the Facility".	

The Guidelines and Technical Basis within the Standard, under R1, (page 9 of 10, second paragraph) states “On an ongoing basis, the GOP has the flexibility to determine when its plant personnel need to receive additional training (e.g., concerning new systems, replacements, technology and operational functionality changes, etc.) on the operational functionality of Protection Systems and RAS”. To maintain the intent of the drafting team we propose that the *note to the auditor* reflect the drafting teams intent from the Guidelines and Technical Basis section. We recommend the following wording that reflects the SDT’s intent: NOTE TO AUDITOR: Training should be updated to include changes or additions to Protection Systems and Remedial Action Schemes that affect the output of the Facility; however the Generator Operator has the flexibility to determine when its personnel need to receive additional training (new systems, replacements, technology, and operational functionality) on the operational functionality of Protection Systems and RAS.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your suggestions. PER-006-1 (*Specific Training for Personnel*) Requirement R1 does not require refresher training and allows the Generator Operator to determine if or when to perform refresher or additional training. The drafting team has proposed edits to the RSAW, a NERC Compliance document, to address the inconsistency between Requirement R1 and the RSAW. The Guidelines and Technical Basis has been revised to remove the sentence “The structure of the requirement dictates that the GOP personnel receive training before the Protection Systems or RAS is placed into service” as noted in the above comment.	
Douglas Webb on Behalf of: Jessica Tucker, Great Plains Energy - Kansas City Power and Light Co., 3, 6, 5, 1	
Answer	
Document Name	
Comment	

No other comments.	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	
Document Name	

Comment
PacifiCorp believes that a new standard, PER-006, would be superfluous to PER-005. An entirely new standard only increases compliance documentation burden without any incremental increase in reliability to the BES. The proposed changes could be made in a new version of PER-005-2, identified as PER-005-3. Both PER-005-2 and the current PER-006 address the same issue. As standards are rewritten, training requirements need to be consolidated not only within the PER section but within the same standard. This would provide consistent approach and reduce the possibility of conflicting terms and applications.

Likes 0	
Dislikes 0	

Response
The drafting team thanks you for your comments and believes that PER-006-1 (Specific Training for Personnel) provides clarity over PRC-001-1.1(ii) (System Protection Coordination), Requirement R1 to identify the appropriate personnel who must receive training (be familiar with). Withdrawing PER-006-1 and its associated Guidelines would result in a reliability gap in the absence of PRC-001-1.1(ii). The Generator Operator personnel at a centrally located dispatch center is addressed by PER-005-2 (Operations Personnel Training) and does not address plant personnel as expected by PER-006-1. The PER-005-2 standard is based on a systematic approach to training and would not ensure that training on Protection Systems and Remedial Action Schemes is provided for plant personnel, which are not applicable to PER-005-2. A technical conference held by the drafting team revealed that stakeholders did not want the burden of a systematic approach to training to be applied to plant personnel.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer	
Document Name	

Comment

Texas RE noticed there is no explanation for the term “calendar year” in the Evidence Retention section of PER-006-1. Footnote #3 of Table 1-1 in PRC-005-6 explains how to apply the term calendar year in PRC-005-6. Is the intent that the term calendar year in PER-006-1 be applied the same as it is applied in PRC-005-6?	
Likes 0	
Dislikes 0	
Response	
The term “calendar year” is understood as January 1 to December 31.	
Ben Engelby - ACES Power Marketing - 6	
Answer	
Document Name	
Comment	
Thank you for the opportunity to comment.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	

Document Name	
Comment	
SRC would like to recognize the willingness of the project team to move away from the initial TOP-009 proposed standard based on the majority comments received from the industry. In addition, the numerous outreach efforts by the project team was instrumental in understanding the industry comments and arriving at the right solution at the end. This is a good example of how the existing iterative process will yield the right results when given the opportunity. Thank you.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Sergio Banuelos - Tri-State G and T Association, Inc. - 1,3,5 - MRO,WECC	
Answer	
Document Name	
Comment	
According to the accompanying RSAW "Documentation of changes or additions during the compliance monitoring period to Protection Systems and Remedial Action Schemes (RAS) that affect the output of the generating Facility(ies)" will be requested as evidence for PER-006-1 R1. Tri-State believes there is no corresponding requirement in the current draft of PRC-006-1 that suggests this information is necessary. If it was the SDT's intentions that there be additional training prior to implementing any changes to the Protection Systems or RAS that affect the output of the Facility, then there should be a requirement that explicitly states that. Tri-State suggests that the SDT create a requirement or sub-requirement to require entities to provide new or additional training to its plant personnel prior to the change in the Protection Systems and RAS being made, so that they are aware of the operational functionality.	

We heard in one of the Q&A sessions that the operators at a dispatch center could be included if they have direct control, in Real-time, of an unmanned plant via remote access capabilities. While we don't disagree with this inclusion, the applicability section does not convey this. We would suggest that the SDT include this scenario within the applicability section.	
Likes 0	
Dislikes 0	
Response	
The drafting team thanks you for your comments and has proposed edits to the RSAW, a NERC Compliance document, to address the inconsistency between PER-006-1 (*Specific Training for Personnel*) Requirement R1 and the RSAW. The drafting team notes that operators at a dispatch center are already covered under PER-005-2 (*Operations Personnel Training*) as "dispatch personnel at a centrally located dispatch center" and are not applicable to PER-006-1.	
Oshani Pathirane on Behalf of: Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	

End of Report