

Consideration of Comments

Project Name: 2007-06.2 Phase 2 of System Protection Coordination | TOP-009-1 & PRC-001-1.1 (ii)

Comment Period Start Date: 7/29/2015

Comment Period End Date: 9/11/2015

Associated Ballot: 2007-06.2 Phase 2 of System Protection Coordination TOP-009-1 & PRC-001-1.1(ii) IN 1 ST

There were 50 responses, including comments from approximately 155 different people from approximately 106 different companies representing all 10 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, [Howard Gugel](#) (via email) or at (404) 446-9693.

Summary of Comments

There were no revisions to the Title, Purpose, or Applicability of the standard. Also, no modifications were made to the Mapping Document. Below are summaries of the primary themes of comments received during the initial ballot of the standard.

Applicability

Three independent system operators / regional transmission operators (ISO/RTO) entities commented that TOP-009-1 should include the Reliability Coordinator. The drafting team had previously concurred that there was no reliability gap in not including the Reliability Coordinator as an applicable registered function based on the NERC functional model. However, based on comments of the ISO/RTO entities and outreach, the drafting team concluded that further investigation is warranted to understand the perceived gap and determine an appropriate action. Based on the additional vetting of the reliability need of the Reliability Coordinator, the drafting team concurred that TOP-009-1 is not the appropriate standard for inclusion of the Reliability Coordinator.

Requirements and Measures

Approximately thirty percent of the commenters believed that the requirements were more suitable to be included in the NERC Personnel or “PER” family of standards. The drafting team responded that the PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

About a fifth of the commenters perceived the requirements as being more expansive than PRC-001-1.1(ii) and requiring an in-depth knowledge of Composite Protection Systems and Remedial Action Schemes. The drafting team explained that TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects. These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.

Around four commenters noted that the term “knowledge” was either unclear or immeasurable from a compliance standpoint. The drafting team revised the measures to address this concern and supplemented the Application Guidelines. The intent of knowledge is not limited to what the entity’s personnel know. Knowledge is conveyed in many ways, such as, training, operating guides, analysis tools, etc. The drafting team revised the Measures to emphasize that the entity is responsible for acquiring the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes. Then ensuring its personnel have the knowledge; therefore, the Measures explain that the entity is expected to demonstrate the methods used to impart the knowledge.

A couple of commenters suggested changes to how the personnel are identified in the requirements. The drafting team explained that personnel are intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The SDT is maintaining flexibility for the registered entity to identify these personnel.

Compliance Elements

The drafting team made minor revisions to the compliance section of the standard to clarify that retention of evidence since the last audit is of the “requirements” and not just since the last audit. Also, the retention period was increased to three years plus the current year to avoid the perception of something that is occurring annually and to be consistent with PER standards. Regardless of the evidence retention, entities are required to ensure its personnel have knowledge Composite Protection Systems and Remedial Action Schemes.

Violation Risk Factors and Violations Severity Levels

Less than five entities commented about the “High” VRF. The drafting team explained that TOP-009-1 narrows the scope of Composite Protection Systems and Remedial Action Schemes to those associated with the Operational Planning Analysis, Real-time monitoring, and Real-time Assessments and not all Composite Protection Systems and Remedial Action Schemes. Because the set is narrowed to the more critical Composite Protection Systems and Remedial Action Schemes, the SDT has assigned a VRF of High to the Requirements. Also the current Requirement R1 in PRC-001-1.1(ii) has a VRF of High.

About a tenth of the commenters suggested improvement to the VSL categories. The primary concern is that only two categories are listed. Also, that the violation is entity-based rather than personnel-based. The drafting team revised the VSL categories to be graded based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and Remedial Action Schemes. The VSL categories have removed references to the “operational functionality and/or effects” to avoid confusion.

The VRF and VSL Justifications were revised to align with changes made to the standard.

Application Guidelines

About a third of the commenters suggested revisions, improvements, and clarifications for the Application Guidelines. The drafting team revised the most of the sections based on comments. Most importantly, the connection between TOP-009-1 and TOP-003-3 that is pending FERC approval was explained in greater detail. The drafting team supplemented guidance for Composite Protection Systems and Remedial Action Schemes to emphasize the standard is addressing these at a high-level and not the “nuts and bolts” level that many entities were being audited to under PRC-001-1.1(ii). TOP-009-1 narrows the scope of these system using TOP-003-3 for the Balancing Authority and Transmission Operator. For the Generator Operator, the Composite Protection Systems were linked to the generation BES Elements (e.g., generator, step-up transformer, and interconnecting line) and the Remedial Action Scheme was linked to the output of the plant.

Implementation Plan

About a fifth of the commenters provided suggestions and a few supporting arguments for increasing the 12 month implementation. The drafting team increased the Implementation Plan to 24 months recognizing that many entities will develop formal training programs as their method of compliance. The additional implementation time will allow entities time to ensure personnel have the necessary knowledge based on the clarified reliability objective from PRC-001-1.1(ii) to TOP-009-1.

Questions

1. **As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.**
2. **As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.**
3. **As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.**
4. **Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.**
5. **Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? 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 standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.**
7. **Are you aware of any conflicts between the proposed 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 on this Standard that you haven't already 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

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -

Selected Answer: Yes

Thomas Foltz - AEP - 5 -

Selected Answer: Yes

Answer Comment: Though we agree with the overall intent of the proposed TOP-009-1 standard, we believe it would be preferable to integrate the proposed requirements into an existing TOP standard. The proposed standard essentially has one key requirement, and including it as part of an existing standard would minimize administrative overhead and efforts.

Response: The drafting team thanks you for your comment and has elected to create a new TOP standard because other TOP standards, for which the requirements may fit, have yet to be approved by regulatory authorities. Creating a new standard eliminates potential conflicts with yet to be approve standards.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -

Selected Answer: Yes

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

Group Name: Dominion NCP

Group Member Name	Entity	Region	Segments
Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

Selected Answer: Yes

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

David Blackshear - Gridforce Energy Management, LLC - 5 -

Selected Answer: Yes

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: Yes

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment:

We agree that R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) as far as requiring TOP personnel to acquire the knowledge of protection systems and RAS in order to perform their tasks. However, we do not agree with the standard for the following reasons:

a. We appreciate NERC's effort to finally place Requirement R1 of PRC-001 into a separate standard as opposed to keeping it in PRC-001 – a proposal we have made a few times when commenting on the various draft versions of the proposed PRC-027 standard. However, we do not agree with putting this requirement(s) in a TOP standards since:

- This requirement(s) applies to the TOP, BA and GOP and covers protection systems and RAS not just in the transmission network, but also at generating plants.

- The proposed requirements in essence stipulate the need to train and verify operating personnel's knowledge and understanding of the

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functionality and effects of protection systems and RAS. Such requirements are much more suited to a PER standard, not only because of the objective behind the requirements (to provide training) but also for their applicability.

b. This standard falls short of including the Reliability Coordinator, whose operating personnel also needs to have at least the same level of knowledge and understanding of the functionality and effects of protection systems and RAS, which is necessary for Reliability Coordinators to develop operational plans, including calculating IROs (as so indicated in the draft standard's Application Guide), and operate their RC area. Not including the RC in this standard will leave a reliability gap.

Response: The drafting team thanks you for your comments. Even though there are no “GOP” family of standards, the “TOP” standards provide the most suitable place to address the knowledge required by the BA, GOP, and TOP. The “TOP” standards include applicable entities other than the BA and TOP.

The PER standards are about personnel training and the proposed TOP-009-1 standard requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team contends that the Reliability Coordinator responsibilities listed under the NERC Functional Model are not consistent with the reliability objective of TOP-009-1. This is because the information needed by the Reliability Coordinator is inferred in other standards. For example, IRO-002-4 (*Reliability Coordination — Monitoring and Analysis*) and IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) both pending FERC approval require the Reliability Coordinator obtain the data it needs to ensure reliability, and PRC-012-2 (*Remedial Action Schemes*) currently under development requires the Reliability Coordinator to conduct a RAS review; therefore, the SDT does not believe there is a gap in reliability by not

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including the Reliability Coordinator. The Reliability Coordinator leverages the expertise of its Transmission Operator and Balancing Authority entities regarding Protection Systems and RAS.

Richard Vine - California ISO - 2 -

Selected Answer: No

Answer Comment: The California ISO supports the comments of the ISO/RTO Council Standards Review Committee for all responses in this Survey

Response: Thank for you for your comments, please see the responses to the ISO/RTO SRC (i.e. Commenter: "Ben Li - Independent Electricity System Operator").

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Michelle Amaranos - APS - Arizona Public Service Co. - 1 -

Selected Answer: No

Answer Comment: The new standard repeats the shortcomings of PRC-001-1.1(ii), in that it requires that personnel "have knowledge of" CPS and RASs and their effects, but gives no assessment of how that "knowledge" is to be measured. M1

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

(and M2 and M3) require that the entity “have evidence that demonstrates the knowledge”, and gives several examples, most of which (manuals, procedures, Op guides, etc.) provide information, but do not guarantee an operator has “Knowledge”. APS recommends the drafting team use a measurable approach such as the ones used in either PER-005-2 or EOP-005-2 R11.

Response: The drafting team thanks you for your comment and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

Likes: 2 Platte River Power Authority, 5, Archie Tyson
Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: Yes

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

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

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

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

Selected Answer: Yes

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Answer Comment:

Each TOP is required to staff its real-time operating positions with system operators who have to meet areas of competency and certification requirements per PER-003-1 requirement R2, which is copied below. One of the areas of required competency for a Transmission Operator is Protection and control as stated in requirement 2.1.4 of the PER-003-1. Additionally, as part of their license renewals (NERC Certificate), Transmission Operators go through 200 hours of training each year, which include this particular area of competency – Protection & control. OPPD believes that this requirement sufficiently meets the need of TOP-009-1 requirement R1 and there is no need to have this additional requirement for TOP's in TOP-009-1.

The NERC examination content for the TOP required-certificates listed in PER-003-1 R2.2, requires full knowledge of Protection Systems' and RAS's impact on reliability. The following is the list of areas of knowledge listed for the TOP NERC Certification exam from the "*Transmission Operator – 2015 Certification Examination Content Outline*" document:

1. Analyze the impact of protection equipment outages on system reliability.
2. Ensure special protective systems and remedial action schemes are enabled when needed for system reliability.
3. Maintain adequate protective relaying during all phases of the system restoration.
4. Analyze relay targets, fault locaters and fault recorders to determine a proper restoration plan following a system event.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

5. Take action in response to alarms from special protective schemes.

6. Schedule system telecommunications, telemetering, protection, and control equipment outages to ensure system reliability

The above content clearly indicates that a TOP system operator must acquire the required knowledge related to Protection Systems and RAS and the impact they will have on the reliability of the system prior to becoming an system operator.

Further, for maintaining their required certifications the TOP system operators are required to complete up to 200 hours of continuous education every 3-year in the areas of their competencies listed in PER-003-1. All of these continuous education training are NERC-approved.

Furthermore, any TOP that operates any RAS individually or jointly will identify it as part of the Reliability-Related Task required by PER-005. Under this requirement the TOP operators will receive detailed and systemic training on all RAS related knowledge, impact, and mitigation. Due to the nature, importance and reliability impact of a RAS, it is inevitable for any RAS to not be a Reliability-Related Task(s) for any TOP if the TOP operates one or more jointly or individually.

Based on the above reasons, we believe that TOP system operators receive sufficient amount of training on knowledge and understanding of Protection Systems/RAS and their impact on reliability. We're asking SDT to consider

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removing requirement R1 of TOP-009-1. The intend of this requirement is sufficiently covered by other requirements. This is a duplicate requirement and perhaps an unnecessary compliance burden on the industry, specifically TOPs.

PER-003-1

R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates

2.1. Areas of Competency

2.1.1. Transmission operations

2.1.2. Emergency preparedness and operations

2.1.3. System operations

2.1.4. Protection and control

2.1.5. Voltage and reactive

2.2. Certificates

• Reliability Operator

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

• Balancing, Interchange and Transmission Operator

• Transmission Operator

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer: No

Answer Comment: We are a GO/GOP, not a TOP. Ballot questions should include a N/A option.

Response: Thank you for your comment.

Joshua Smith - Joshua Smith On Behalf of: Rod Kinard, Oncor Electric Delivery, 1

Selected Answer: Yes

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer: Yes

Answer Comment: ITC Holdings agrees with the comments submitted by NSRF. A copy of NSRF's comments are provided below.

Each TOP is required to staff its real-time operating positions with system operators who have to meet areas of competency and certification requirements per PER-003-1 requirement R2, which is copied below. One of the areas of required competency for a Transmission Operator is Protection and control as stated in requirement 2.1.4 of the PER-003-1. Additionally, as part of their license renewals (NERC Certificate), Transmission Operators go through 200 hours of training each year, which include this particular area of competency – Protection & control. OPPD believes that this requirement sufficiently meets the need of TOP-009-1 requirement R1 and there is no need to have this additional requirement for TOP's in TOP-009-1.

The NERC examination content for the TOP required-certificates listed in PER-003-1 R2.2, requires full knowledge of Protection Systems' and RAS's impact on reliability. The following is the list of areas of knowledge listed for the TOP NERC Certification exam from the "*Transmission Operator – 2015 Certification Examination Content Outline*" document:

1. Analyze the impact of protection equipment outages on system reliability.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

2. Ensure special protective systems and remedial action schemes are enabled when needed for system reliability.

3. Maintain adequate protective relaying during all phases of the system restoration.

4. Analyze relay targets, fault locaters and fault recorders to determine a proper restoration plan following a system event.

5. Take action in response to alarms from special protective schemes.

6. Schedule system telecommunications, telemetering, protection, and control equipment outages to ensure system reliability

The above content clearly indicates that a TOP system operator must acquire the required knowledge related to Protection Systems and RAS and the impact they will have on the reliability of the system prior to becoming an system operator.

Further, for maintaining their required certifications the TOP system operators are required to complete up to 200 hours of continuous education every 3-year in the areas of their competencies listed in PER-003-1. All of these continuous education training are NERC-approved.

Furthermore, any TOP that operates any RAS individually or jointly will identify it as part of the Reliability-Related Task required by PER-005. Under this requirement the TOP operators will receive detailed and systemic

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training on all RAS related knowledge, impact, and mitigation. Due to the nature, importance and reliability impact of a RAS, it is inevitable for any RAS to not be a Reliability-Related Task(s) for any TOP if the TOP operates one or more jointly or individually.

Based on the above reasons, we believe that TOP system operators receive sufficient amount of training on knowledge and understanding of Protection Systems/RAS and their impact on reliability. We're asking SDT to consider removing requirement R1 of TOP-009-1. The intend of this requirement is sufficiently covered by other requirements. This is a duplicate requirement and perhaps an unnecessary compliance burden on the industry, specifically TOPs.

PER-003-1

R2. Each Transmission Operator shall staff its Real-time operating positions performing

Transmission Operator reliability-related tasks with System Operators who have

demonstrated minimum competency in the areas listed by obtaining and maintaining

one of the following valid NERC certificates

2.1. Areas of Competency

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

2.1.1. Transmission operations

2.1.2. Emergency preparedness and operations

2.1.3. System operations

2.1.4. Protection and control

2.1.5. Voltage and reactive

2.2. Certificates

• Reliability Operator

• Balancing, Interchange and Transmission Operator

• Transmission Operator

Response: Thank you for your comments. Please see the responses above associated with the Midwest Reliability Organization NERC Standards Review Forum (MRO NSRF).

Joe Tarantino - Joe Tarantino On Behalf of: Diane Clark, Sacramento Municipal Utility District, 3, 4, 6, 5, 1
Kevin Smith, Balancing Authority of Northern California, 1
Michael Ramirez, Sacramento Municipal Utility District, 3, 4, 6, 5, 1
Rachel Moore, Sacramento Municipal Utility District, 3, 4, 6, 5, 1

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Susan Gill-Zobitz, Sacramento Municipal Utility District, 3, 4, 6, 5, 1

Tim Kelley, Sacramento Municipal Utility District, 3, 4, 6, 5, 1

Selected Answer: No

Answer Comment: First, the requirement addresses “knowledge of operational functionality” that is covered under the Personnel Performance, Training, and Operations standard where the process for systematic approach for training would address the training of special protection systems.

The scope of the “Composite Protection System” identified in the requirement is too broad. This lends to a subjective approach to compliance that would not provide consistency throughout industry. In addition, identifying the “personnel responsible for Reliable Operation” subjects the compliance scope beyond personnel of system operators and requires language that only addresses the system operators.

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team selected the NERC defined term “Composite Protection System” (introduced in PRC-004-3) because it most closely matches the intent of the requirement to address the level of operational functionality at a scheme level rather than the individual components of the defined term “Protection System.” The Composite Protection System definition is based on the principle that an Element’s multiple layers of protection are intended to function collectively. The use of this term clarifies

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that the operational functionality of an Element's total complement of protection should be considered. The term "Protection System scheme" used in PRC-001-1.1(ii) is being replaced by "Composite Protection System" to clarify this intent.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time "Reliable Operation" of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel. The Application Guidelines do not specify training, but the knowledge that is required. Training is one method an entity may use to comply with the requirements. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term "knowledge."

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: Yes

Answer Comment: Duke Energy agrees that R1 of TOP-009-1 addresses the reliability need that currently exists in PRC-001-1.1(ii). However, we are concerned that the requirement's language is too ambiguous to adequately deduce the compliance threshold as it appears to have exceeded the responsibilities that currently exist in PRC-001-1.1. The definition of Composite Protection

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System, while more narrow than Protection System itself, complements the belief that R1 of TOP-009-1 exceeds the requirements of PRC-001-1.1(ii) in that the definition includes almost all Protection Systems and all Elements on an entities system. We feel that the definition of Composite Protection System as applied in R1, is too broad specifically from a System Operator’s standpoint.

Also, portions of the bulleted list that appear in the R1 section of the Application Guideline are too specific, and we believe are unnecessary to be known in that level of detail by a System Operator.

Response: The drafting team thank you for your comment and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Mark Kenny - Eversource Energy - 3 -

Selected Answer: Yes

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: Yes

Answer Comment: TOP-009-1, Requirement R1 addresses the reliability need (and perhaps more) of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator.

Response: The drafting team thanks you for your comment and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: No

Answer Comment: The standard language as proposed requires system control operators to have in depth knowledge of protection systems in their area. This is a significant increase in the training and knowledge required for system operators, without necessarily increasing the reliability benefit. System control operators currently have access to this expertise without being individually required to obtain it and retain it through field work with the relay engineers.

Response: The drafting team thanks you for your comment contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Likes: 2 Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott
Tallahassee Electric (City of Tallahassee, FL), 3, Williams John

Dislikes: 0

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Answer Comment: ERCOT agrees that R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) as far as requiring TOP personnel to acquire the knowledge of protection systems and RAS in order to perform their tasks. However, ERCOT does not agree with the standard for the following reasons:

{C}a. ERCOT appreciates NERC’s effort to place Requirement R1 of PRC-001 into a separate standard as opposed to keeping it in PRC-001 – a proposal that has been set forth in comments on the various draft versions of the proposed PRC-027 standard. However, ERCOT does not support characterizing these requirements in a TOP standard since:

{C} These requirement apply to the TOP, BA, and GOP and cover protection systems and RASs, not just in the transmission network, but also at generating plants.

{C} The proposed requirements, in essence, stipulate training regarding protection systems and RASs and verifying operating personnel’s knowledge

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

and understanding of the functionality and effects of protection systems and RAS. Such requirements are much more suited to a PER standard, not only because of the objective behind the requirements (to provide training), but also because of their applicability. Further, it is important that training correlate with and be included as part of the Systematic Approach to Training developed by each entity to fulfill its training obligations under the Reliability Standards. The prescriptive nature of this standard contradicts the approach to training previously approved by the Industry.

{C}b. This standard falls short of including the Reliability Coordinator, whose operating personnel should have knowledge and understanding of the functionality and effects of protection systems and RASs to develop operational plans, calculate IROLs (as so indicated in the draft standard's Application Guide), and operate their RC area.

{C}c. This standard is not fully clear regarding the personnel required to be trained and appears to require training of personnel working in real-time and operations planning. Identification of the personnel to be trained should be left to the discretion of the responsible entity.

{C}d. Should the above comments not be adopted, ERCOT recommends the following revision:

R1. Each Transmission Operator shall identify the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in order to maintain the reliability of

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

the BES and shall develop and implement training for its personnel that perform Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for its Transmission Operator Area through its systematic approach to training. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Response: The drafting team thanks you for your comments.

- a. Even though there are no “GOP” family of standards, the “TOP” standards provide the most suitable place to address the knowledge required by the BA, GOP, and TOP. The “TOP” standards include applicable entities other than the BA and TOP. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.
- b. The drafting team contends that the Reliability Coordinator responsibilities listed under the NERC Functional Model are not consistent with the reliability objective of TOP-009-1. This is because the information needed by the Reliability Coordinator is inferred in other standards. For example, IRO-002-4 (*Reliability Coordination — Monitoring and Analysis*) and IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) both pending FERC approval require the Reliability Coordinator obtain the data it needs to ensure reliability, and PRC-012-2 (*Remedial Action Schemes*) currently under development requires the Reliability Coordinator to conduct a RAS review; therefore, the drafting team does not believe there is a gap in reliability by not including the Reliability Coordinator. The Reliability Coordinator leverages the expertise of its Transmission Operator and Balancing Authority entities regarding Protection Systems and RAS.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

- c. Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel.
- d. Thank you for the suggestion.

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Selected Answer:

Yes

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer:

No

Answer Comment:

ERCOT agrees that R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) as far as requiring TOP personnel to acquire the knowledge of protection systems and RAS in order to perform their tasks. However, ERCOT does not agree with the standard for the following reasons:

{C}a. ERCOT appreciates NERC's effort to place Requirement R1 of PRC-001 into a separate standard as opposed to keeping it in PRC-001 – a proposal that has been set forth in comments on the various draft versions of the proposed PRC-027 standard. However, ERCOT does not support characterizing these requirements in a TOP standard since:

{C} These requirement apply to the TOP, BA, and GOP and cover protection systems and RASs, not just in the transmission network, but also at generating plants.

{C} The proposed requirements, in essence, stipulate training regarding protection systems and RASs and verifying operating personnel's knowledge and understanding of the functionality and effects of protection systems and RAS. Such requirements are much more suited to a PER standard, not only because of the objective behind the requirements (to

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

provide training), but also because of their applicability. Further, it is important that training correlate with and be included as part of the Systematic Approach to Training developed by each entity to fulfill its training obligations under the Reliability Standards. The prescriptive nature of this standard contradicts the approach to training previously approved by the Industry.

{C}b. This standard falls short of including the Reliability Coordinator, whose operating personnel should have knowledge and understanding of the functionality and effects of protection systems and RASs to develop operational plans, calculate IROLs (as so indicated in the draft standard's Application Guide), and operate their RC area.

{C}c. This standard is not fully clear regarding the personnel required to be trained and appears to require training of personnel working in real-time and operations planning. Identification of the personnel to be trained should be left to the discretion of the responsible entity.

{C}d. Should the above comments not be adopted, ERCOT recommends the following revision:

R1. Each Transmission Operator shall identify the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in order to maintain the reliability of the BES and shall develop and implement training for its personnel that perform Operational Planning Analyses, Real-time monitoring, and Real-time

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Assessments for its Transmission Operator Area through its systematic approach to training. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Response: Thank you for your comments.

- a. Even though there are no “GOP” family of standards, the “TOP” standards provide the most suitable place to address the knowledge required by the BA, GOP, and TOP. The “TOP” standards include applicable entities other than the BA and TOP. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.
- b. The drafting team contends that the Reliability Coordinator responsibilities listed under the NERC Functional Model are not consistent with the reliability objective of TOP-009-1. This is because the information needed by the Reliability Coordinator is inferred in other standards. For example, IRO-002-4 (*Reliability Coordination — Monitoring and Analysis*) and IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) both pending FERC approval require the Reliability Coordinator obtain the data it needs to ensure reliability, and PRC-012-2 (*Remedial Action Schemes*) currently under development requires the Reliability Coordinator to conduct a RAS review; therefore, the drafting team does not believe there is a gap in reliability by not including the Reliability Coordinator. The Reliability Coordinator leverages the expertise of its Transmission Operator and Balancing Authority entities regarding Protection Systems and RAS.
- c. Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel.
- d. Thank you for the suggestion.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: Yes

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

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

Selected Answer: No

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Answer Comment:

BPA believes PER-005 adequately addresses this requirement as PER-005 requires entities to use a systematic approach to develop and implement a training program for its System Operators and to assess the effectiveness of the training, including demonstrated knowledge. This BES company-specific Real-time reliability-related task training includes all BES tasks including CPS and RAS. If the drafting team does not agree, then BPA believes PER-005 should be revised to more specifically include Knowledge of Composite Protection Systems and Remedial Action Schemes and Their Effects. BPA does not believe a new standard is required and sees the PER family of standards as the correct place to capture this requirement.

NERC reliability standards employ different terminology for seemingly the same affected personnel. Differing terms lead to confusion. TOP-009 uses “personnel responsible for Reliable Operation”, COM-002-4 uses “operating personnel”, and PER-005 uses “System Operators” and “Operations Support Personnel”. While BPA appreciates the SDT’s effort to allow entities to define the personnel that fall under these terms, BPA proposes that NERC standardize on terminology across standards to achieve consistency. BPA suggests the terms “System Operators and Operations Support Personnel” and notes that PER-005 does allow entity’s flexibility in determining who to include in these groups.

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel.

The drafting team notes that NERC has initiated periodic reviews of Reliability Standards to ensure quality and content. However, if an entity feels there are inconsistencies, the entity may submit a Standards Authorization Request (SAR) for NERC Standards to address any perceived inconsistencies that may affect reliability.

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: Yes

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3
Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer: No

Answer Comment: See Q3

Response (From question #3 below): The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

The drafting team will also provide NERC Compliance staff comments regarding the RSAW and input on potential revisions.

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

Selected Answer: No

Answer Comment: Texas RE provides the following comments for the SDT's consideration:

Reduce ambiguity

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Specifically, the term “operational functionality and effects” is ambiguous. A more clarifying approach would be to use language from the rationale “have knowledge of how Composite Protection Systems are expected to operate, limit the severity and spread of disturbances, and prevent possible damage to Elements, and how Remedial Action Schemes are expected to detect pre-determined BES conditions and automatically take corrective actions”. **Does the Standard Drafting Team (SDT) believe the rationale language is more clarifying than the current requirement language?**

Define “Real-time monitoring”

In addition, is the SDT planning on defining “Real-time monitoring” so that it can be included in the NERC Glossary of Terms? In the context that “Real-time monitoring” is used in the requirement, it may lead to inconsistencies in compliance monitoring because of the lack of criteria. For example, Operational Planning Analysis as defined provides an acceptable criteria that may be relied upon in evaluating compliance with this requirement. Specifically, the definition of Operational Planning Analysis (OPA) states “...system conditions include things such as load forecast(s), generation output levels, Interchange, and known system constraints (transmission facility outages, generator outages, equipment limitations, etc.” **Does the SDT believe that the lack of criteria regarding “Real-time monitoring” may lead to inconsistencies in Transmission Operator performance with the requirement? If not, please explain.**

Transmission Operator Area Definition

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Texas RE is concerned that the use of the definition “Transmission Operator Area” in the requirement, may be misinterpreted. For instance, “Transmission Operator Area”, as defined in the NERC Glossary of Terms is, “The collection of Transmission assets over which the Transmission Operator is *responsible for operating.*” Conversely, this requirement obligates a Transmission Operator to have knowledge and reliability tasks that are outside of Transmission Operator’s area of responsibility, i.e. a generation Facility and the applicable Composite Protection Systems that are necessary to perform an OPA, Real-time monitoring, and Real-time Assessments. Specifically, the definition of OPA states “...system conditions include things such as load forecast(s), **generation output levels**, Interchange, and known system constraints (transmission facility outages, **generator outages**, **equipment limitations**, etc.” Also, generator output and equipment limitations may result from RAS and Composite Protection System operation.

Consequently, if the Transmission Operator Area definition’s inclusion is misinterpreted, a Transmission Operator may inappropriately determine that there is no compliance obligation to have knowledge of a RAS (or Composite Protection System) operational functionality and effect on an asset, other than a Transmission asset over which the Transmission Operator is responsible for operating. If that were to happen, how can an OPA be completed that supports reliability? Similarly, consider line connections between two TOPs: both TOPs need to understand the Composite Protection Systems of the interconnecting transmission line. Unfortunately, there may be a reliability gap if the owners of protection systems are required to coordinate settings but the operators do not have to have knowledge of

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

those systems.

Texas RE recommends that the SDT consider revising the requirement language to include “Transmission Operator area” instead of the current “Transmission Operator Area” which would be consistent with PRC-001-1.1(ii), RI, “... applied in its area.”

Does the SDT acknowledge that the Transmission Operator definition’s inclusion may be misinterpreted which may lead to reliability gaps?

BES vs BPS

Texas RE requests the SDT provide an explanation for the use of “BES” in the requirement instead of “BPS”. By contrast, the definition for “Reliable Operation”, which is an essential inclusion to the requirement, utilizes “BPS”. Specifically, “Reliable Operation” is defined to as, “Operating the elements of the **bulk-power system [Bulk-Power System]** within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.”

Does the SDT agree that there is an inconsistency because the definition “Reliable Operation” includes a reference to the BPS but the requirement references BES?

UVLS and UFLS

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Using the defined terms “Composite Protection System” and “Remedial Action Scheme” may lead to possible gaps in the system knowledge that operators must have (e.g., undervoltage and underfrequency load shed schemes as well as schemes that are specifically excluded from the RAS definition such as SSR schemes, out-of step schemes, anti-islanding protection, etc.) These systems are extremely complex and the operator must have an understanding of how they are implemented, but they are excluded from the Requirement by limiting it to the defined terms.

Does the SDT agree that as it pertains to this requirement, a Transmission Operator should have knowledge of undervoltage and underfrequency load shed schemes as well as schemes that are specifically excluded from the RAS definition such as SSR schemes, out-of step schemes, anti-islanding protection?

Response: The drafting team thanks you for your comments.

Reduce ambiguity

No, the drafting team revised the Application Guidelines to clarify “operational functionality and effects.” The intent of the Rationale is to explain the reasoning for the requirement and not what is required by the entity.

Define “Real-time monitoring”

No, the drafting team does not believe that the phrase “Real-time monitoring” will lead to inconsistencies because this phrase is used in the NERC Board of Trustees adopted Reliability Standard TOP-003-3 (*Operational Reliability Data*), for example. If the Balancing Authority or Transmission Operator includes in its documented data specification provisions for the notification of current Protection System or Special Protection System (i.e., Remedial Action Scheme or RAS) as required by TOP-003-3, then the Composite Protection System or RAS in TOP-009-1 become the subject of the knowledge operating personnel must have.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Transmission Operator Area Definition

The use of the terms “Transmission Operator Area” and “Balancing Authority Area” provides additional description to the personnel applicable to the requirements. The terms do not describe the geographic location of any Composite Protection Systems or Remedial Action Schemes (RAS). The set of Composite Protection Systems or RASs for which knowledge is required, pertain to those included in the documented data specification of the Balancing Authority and Transmission Operator. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure). The Application Guidelines have been supplemented to explain that protective systems could be outside of the “area” an entity controls.

BES vs BPS

The drafting team disagrees that there is an inconsistency. The reference to Bulk Power System (BPS) does not expand the definition of Bulk Electric System (BES) in the requirements. The TOP-009-1 standard uses BES to qualify the applicable facilities, which is more narrow than the definition of BPS.

UVLS and UFLS

The drafting team contends that undervoltage load shedding (UVLS) and underfrequency load shedding (UFLS) schemes as well as schemes that are specifically excluded from the recently approved Remedial Action Scheme (RAS) definition such as sub synchronous resonance (SSR) schemes, out-of-step schemes, and anti-islanding protection are not within the scope of this project. These schemes were not identified in the Standard Authorization Request (SAR), System Protection Coordination Task Force (SPCTF) technical assessment of PRC-001 associated with the SAR, the existing PRC-001-1.1(ii) standard, or FERC orders directing clarifications of the requirements. Therefore, the drafting team concludes that these schemes are outside the knowledge relevant to Protection Systems and Remedial Action Schemes addressed by PRC-001-1.1(ii) that the drafting team has been directed to address.

Shawna Speer - Colorado Springs Utilities - 1 -

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Selected Answer:

No

Answer Comment:

The SDT's comments on the August 25th/26th project webinar Q&A recording, beginning at approximately 39 minutes, evidences a significant lack of understanding by SDT, NERC, and FERC OER personnel of the intent and outcomes of the Systematic Approach to Training (SAT) process found in PER-005-2. The SAT process, properly applied, does not result in only "minimal/basic" levels of knowledge and does not necessarily result in a "once and done" delivery of that training. Also, the use of the regrettable, newly-approved term, "Composite Protection System," will not, as the SDT avers, provide clarity in an audit environment when it comes to the proposed Standard. Additionally, as pointed out elsewhere in the webinar, the pending TOP-003-3 requires TOPs & BAs to identify and request (and other appropriate stakeholders to supply) data necessary to perform Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data contemplated in the proposed TOP-009-1 would certainly already fall within TOP-003-3.

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team selected the NERC defined term "Composite Protection System" (introduced in PRC-004-3) because it most closely matches the intent of the requirement to address the level of operational functionality at a scheme level rather than the individual components of the defined term "Protection System." The Composite Protection System definition is based on the principle that an Element's multiple layers of protection are intended to function collectively. The use of this term clarifies

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

that the operational functionality of an Element's total complement of protection should be considered. The term "Protection System scheme" used in PRC-001-1.1(ii) is being replaced by "Composite Protection System" to clarify this intent.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations "TOP" Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms "Composite Protection Systems" and "Remedial Action Schemes" to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a "Protection System."

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU Energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Selected Answer:

No

Answer Comment:

These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

Comments: The term “knowledge” in R1 is a change from the previous requirement in PRC-001-1.1(ii), intended to add clarity. LG&E/KU believes it remains vague and open to auditor interpretation. LG&E/KU agrees with the standard’s inclusion of personnel performing Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for reliable operation of the BES. However, LG&E/KU propose the language be changed from “...have knowledge of operational functionality and effects of...” to a more defined “...have knowledge of purpose, limitations, and effects of...” This revised language is intended to enable the Transmission Operator to establish clear objectives and requirements for operating personnel in order to comply with the standard.

Response: Thank you for your comments. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

The drafting team disagrees with the suggestion to add “purpose and limitation” to the requirements. The reliability objective is to have knowledge of the “operational functionality” and “effects.”

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer: No

Answer Comment: Note: ERCOT is not a party to the submission of these comments.

The ISO/RTO Council Standards Review Committee agrees that R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) as far as requiring TOP personnel to acquire the knowledge of protection systems and RAS in order to perform their tasks. However, the

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

SRC does not agree with the standard for the following reasons:

1. The SRC appreciates NERC's effort to place Requirement R1 of PRC-001 into a separate standard as opposed to keeping it in PRC-001 – a proposal that has been set forth in comments on the various draft versions of the proposed PRC-027 standard. However, the SRC does not agree with characterizing these requirements in a TOP standard since:

- This requirements apply to the TOP, BA, and GOP and covers protection systems and RASs not just in the transmission network, but also at generating plants.**
- The proposed requirements, in essence, stipulate training regarding protection systems and RASs and verifying operating personnel's knowledge and understanding of the functionality and effects of protection systems and RAS. SRC agrees with the requirements (after consideration is given to additional comments below) but asks that TOP-009 be reclassified to a PER-00X since such requirements are much more suited to a PER standard, not only because of the objective behind the requirements (to provide training), but also because of their applicability.**

2. This standard falls short of including the Reliability Coordinator, whose operating personnel also need to have, at least, the same level of knowledge and understanding of the functionality and effects of protection systems and RASs to develop operational plans, calculate IROLs (as so indicated in the draft standard's Application Guide), and operate their RC area. Not including the RC in this standard will leave a reliability gap.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Response: The drafting team thanks you for your comments.

1. Even though there are no “GOP” family of standards, the “TOP” standards provide the most suitable place to address the knowledge required by the BA, GOP, and TOP. The “TOP” standards include applicable entities other than the BA and TOP. (Second bullet) The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.
2. The drafting team contends that the Reliability Coordinator responsibilities listed under the NERC Functional Model are not consistent with the reliability objective of TOP-009-1. This is because the information needed by the Reliability Coordinator is inferred in other standards. For example, IRO-002-4 (*Reliability Coordination — Monitoring and Analysis*) and IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) both pending FERC approval require the Reliability Coordinator obtain the data it needs to ensure reliability, and PRC-012-2 (*Remedial Action Schemes*) currently under development requires the Reliability Coordinator to conduct a RAS review; therefore, the drafting team does not believe there is a gap in reliability by not including the Reliability Coordinator. The Reliability Coordinator leverages the expertise of its Transmission Operator and Balancing Authority entities regarding Protection Systems and RAS.

Andrew Pusztai - American Transmission Company, LLC - 1 -

Selected Answer:

No

Answer Comment:

ATC’s interpretation of **PRC-001-1.1(ii) R1 below** has historically been targeted at System Operators.

R1. Each Transmission Operator, Balancing Authority, and Generator Operator shall be familiar with the purpose and limitations of Protection

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

System schemes applied in its area.

The proposed TOP-009-1 R1 is below:

R1. Each Transmission Operator shall ensure that its personnel responsible for Reliable Operation of its Transmission Operator Area have knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in order to maintain the reliability of the BES.

The proposed standard TOP-009-1 R1 is now worded as “personnel responsible for Reliable Operation of its Transmission Operator Area”. ATC believes that this requirement is ambiguous and may be left up to interpretation by entities. It is not clear who needs the knowledge and what is meant by knowledge. ATC questions what other target functions, aside from System Operator, that NERC envisions including as subject to R1 by use of the present phrase. Does the SDT intend to also target Operations Support Personnel as “personnel responsible for Reliable Operation of its Transmission Operator Area?” To clarify, ATC suggests that this phrase be replaced with “System Operators;” an already-defined NERC term that presumably is equivalent to the phrase in the present draft of TOP-009-1 R1. If so, such a TOP-009-1 R1 expectation may indeed not necessarily be apparent within PER-005-2 R5 (pertinent to Operations Support Personnel), and therefore use of this defined term in TOP-009-1 R1 would add clarity.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

ATC's recommended revision to R1 is as follows.

R1. *Each Transmission Operator shall ensure that its System Operators have knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in order to maintain the reliability of the BES.*

ATC's suggested edits improve clarity and will enable more efficiently focused System Operations training programs.

For the reasons stated above, ATC is voting "negative".

Response: The drafting team thanks you for your comment. Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time "Reliable Operation" of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel.

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

Selected Answer: Yes

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1
Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6
Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Selected Answer:

No

Answer Comment:

A utility cannot measure or demonstrate that anyone has “requisite knowledge”. All we can do is provide training and other technical information. That should be the performance we are judged on. As an example of our concern, what happens if an operator forgets some details of a RAS’s operation and we have an event as a result? In this case, there might be an automatic violation of the standard, no matter how much training or technical information we provide. For this reason, “have requisite knowledge” is no better than “be familiar with” (the current language). At least the industry understands what the auditors are looking for under the current language (training records).

Related to the above point, the proposed measure is disconnected from the requirement language. We can provide all of those things to our operators

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

(training, operating guides, manuals, etc.), but none of them can prove that the personnel have “requisite knowledge”.

Response: Thank you for your comment. The drafting team notes that training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

Ben Engelby - ACES Power Marketing - 6 -

Group Name:

ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

Selected Answer:

No

Answer Comment:

The term “knowledge” is subjective and vague, which will lead to inconsistent applications of the requirement by regional auditors. How does a person measure knowledge? When auditing, will auditors be required to administer a written exam to validate a system operator’s level of knowledge? This requirement needs to be revised to be measurable, such as by requiring a specific amount of training hours or years of experience before an operator could sit unsupervised at the transmission desk.

In addition, the word choice of knowledge is problematic and goes against NERC’s own policies for training development. NERC’s system operator continuing education training department will reject any Individual Learning Activity applications developed for assigning Continuing Education Hours (CEH) which use words like “know,” “knowledge,” and “understand.” NERC, through this department, has set a precedence for requiring applicants use a higher level of learning, such as that listed in Bloom’s taxonomy. Why is “knowledge” superior in this instance?

Response: The drafting team thanks you for your comment and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.” The drafting team also revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

1. As the Transmission Operator, do you agree that TOP-009-1, Requirement R1 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Transmission Operator? If not, please explain why or why not.

**Oshani Pathirane - Oshani Pathirane On Behalf of: Paul Malozewski, Hydro One Networks, Inc., 1, 3
Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3**

Selected Answer: Yes

Answer Comment: The previous requirement entailed “familiarity with the purpose and limitations of protection systems”, whilst the new requirement extends this to “knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes”. Therefore, Hydro One Networks Inc. believes that the reliability need is adequately covered. In fact, the scope of the new requirement is even broader and more concrete, and the wording more specific.

Response: Thank you for your comment.

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -

Selected Answer: Yes

Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -

Selected Answer: Yes

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

Group Name: Dominion NCP

Group Member Name	Entity	Region	Segments
Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Selected Answer: Yes

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

David Blackshear - Gridforce Energy Management, LLC - 5 -

Selected Answer: Yes

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: Yes

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment: Please see our comment under Q1.

Response (From question #1 above): The drafting team thanks you for your comments. Even though there are no “GOP” family of standards, the “TOP” standards provide the most suitable place to address the knowledge required by the BA, GOP, and TOP. The “TOP” standards include applicable entities other than the BA and TOP.

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

The PER standards are about personnel training and the proposed TOP-009-1 standard requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team contends that the Reliability Coordinator responsibilities listed under the NERC Functional Model are not consistent with the reliability objective of TOP-009-1. This is because the information needed by the Reliability Coordinator is inferred in other standards. For example, IRO-002-4 (*Reliability Coordination — Monitoring and Analysis*) and IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) both pending FERC approval require the Reliability Coordinator obtain the data it needs to ensure reliability, and PRC-012-2 (*Remedial Action Schemes*) currently under development requires the Reliability Coordinator to conduct a RAS review; therefore, the SDT does not believe there is a gap in reliability by not including the Reliability Coordinator. The Reliability Coordinator leverages the expertise of its Transmission Operator and Balancing Authority entities regarding Protection Systems and RAS.

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Answer Comment: Balancing Authorities really only need to know what is the size of the contingency associated with a RAS when it is enabled or disabled. Some Balancing Authorities are precluded from having real time knowledge of the Transmission System.

Response: The drafting team thanks you for your comment and contends that Balancing Authorities need to understand the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes on their area. The Balancing Authority knowledge is focused on those Composite Protection Systems and Remedial Action Schemes

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

that are included in its documented data specification for which it requires notification of current status or degradation (i.e., failure) necessary for performing its Real-time monitoring.

Michelle Amarantos - APS - Arizona Public Service Co. - 1 -

Selected Answer: No

Answer Comment: See comments above.

Response (From #1 above): The drafting team thanks you for your comment and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: Yes

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

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

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

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

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Selected Answer:

Answer Comment:

The NSRF suggest that the wording of “generation-Load-Interchange balance” be updated to read “generation, Load and Interchange balance”. It looks like the SDT took the exact wording from the Functional Model when developing this Requirement. This change will give BAs a clear understanding of the knowledge(s) that are needed to support Real-time monitoring in order to maintain generation, Load and Interchange balance. These are three distinct operations that a BA performs.

Response: Thank you for the suggestion. Change made.

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer:

No

Answer Comment:

We are a GO/GOP, not a BA. Ballot questions should include a N/A option.

Response: Thank you for the suggestion.

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Selected Answer: Yes

Answer Comment: ITC Holdings agrees with the comments submitted by NSRF. A copy of NSRF's comments are provided below.

The NSRF suggest that the wording of “generation-Load-Interchange balance” be updated to read “generation, Load and Interchange balance”. It looks like the SDT took the exact wording from the Functional Model when developing this Requirement. This change will give BAs a clear understanding of the knowledge(s) that are needed to support Real-time monitoring in order to maintain generation, Load and Interchange balance. These are three distinct operations that a BA performs.

Response: Thank you for the suggestion. Change made.

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: Yes

Answer Comment: **Duke Energy agrees that R2 of TOP-009-1 addresses the reliability need that currently exists in PRC-01-1.1(ii). However, we echo our concerns voiced regarding R1. We believe that the responsibilities levied by R2 goes beyond what is currently the expectation in PRC-001-1.1(ii).**

Response: The drafting team thanks you for your comment and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Balancing Authority to maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Balancing Authority Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Balancing Authority must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Mark Kenny - Eversource Energy - 3 -

Selected Answer: Yes

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

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

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: Yes

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: Yes

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Answer Comment:

TOP-009-1, Requirement R2 addresses the reliability need (and perhaps more) of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority.

Response: The drafting team thanks you for your comment and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Balancing Authority to maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Balancing Authority Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Balancing Authority must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer:

No

Answer Comment:

The standard language as proposed requires system control operators to have in depth knowledge of protection systems in their area. This is a significant increase in the training and knowledge required for system operators, without necessarily increasing the reliability benefit. System

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

control operators currently have access to this expertise without being individually required to obtain it and retain it through field work with the relay engineers.

Response: The drafting team thanks you for your comments and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Balancing Authority to maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Balancing Authority Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Balancing Authority must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Likes: 2 Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott
Tallahassee Electric (City of Tallahassee, FL), 3, Williams John

Dislikes: 0

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Answer Comment:

Please see our comment under Q1. Should such comments not be adopted, ERCOT recommends the following revision:

R2. Each Balancing Authority shall identify the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Real-time monitoring in order to maintain generation-Load-Interchange balance and shall develop and implement training for its personnel that perform its Real-time monitoring of its Balancing Authority Area through its systematic approach to training. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Response: Thank you for your comment, please see the response in #1 above. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name:

NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Selected Answer: No

Answer Comment: The Time Horizon for Requirement R2 refers to Operations Planning, Same-Day Operations, and Real-time Operations. The Requirement refers only to Real-time Operations. Suggest removing Operations Planning and Same-Day Operations from the Time Horizon.

Response: Thank you for your comment. The drafting team included all three time horizons because they span from the real-time operations by System Operators to the near-term planning by other reliability personnel.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Answer Comment:

Please see our comment under Q1. Should such comments not be adopted, ERCOT recommends the following revision:

R2. Each Balancing Authority shall identify the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Real-time monitoring in order to maintain generation-Load-Interchange balance and shall develop and implement training for its personnel that perform its Real-time monitoring of its Balancing Authority Area through its systematic approach to training. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Response: The drafting team thanks you for your comments, please see the response in #1 above.

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer:

No

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer:

No

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

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Selected Answer: No

Answer Comment: Please see BPA’s response to Question 1.

Response (From #1 above): Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel.

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: Yes

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1
Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3
Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer: No

Answer Comment: see Q3

Response (From question #3 below): The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

The drafting team will also provide NERC Compliance staff comments regarding the RSAW and input on potential revisions.

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

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Selected Answer:

No

Answer Comment:

How does the SDT envision Balancing Authorities (BAs) obtaining information on Composite Protection Systems and Remedial Action Schemes operational functionality and effects necessary to perform its Real-time monitoring? RASs and Composite Protection Systems near a Balancing Authority Area could have an effect on the Reliable Operation of the area. The Standard language is not clear and the Applications Guideline may inadvertently introduce a reliability gap. While it is difficult to place limits on which outside RAS/Composite Protection Systems should be included, the implication is those “necessary to perform its Real-time monitoring in order to maintain generation-Load-Interchange balance.” which should/could include some RAS/Composite Protection Systems outside the BA Area.

Response: The drafting team thanks you for your comments and notes that including a requirement for other entities to provide information is administrative and has little reliability benefit. It is more beneficial for the Balancing Authority to engage the other entities to determine what knowledge it needs to operate reliably for those Composite Protection Systems and Remedial Action Schemes for which it receives notification of current status or degradation that are necessary to perform its real-time monitoring.

The phrase “Balancing Authority Area” frames up, “who” is responsible and not which Composite Protection Systems or RASs are in scope. The SDT contends that NERC transmission operations “TOP” Reliability Standards require the Balancing Authority to maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts System reliability. These

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Balancing Authority must have the knowledge of operational functionality and effects.

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU Energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

Selected Answer: No

Answer Comment: These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

Comments: The term “knowledge” in R2 is a change from the previous requirement in PRC-001-1.1(ii), intended to add clarity. LG&E/KU believes it remains vague and open to auditor interpretation. LG&E/KU agrees with the standard’s inclusion of personnel performing

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for reliable operation of the BES. However, LG&E/KU propose the language be changed from “...have knowledge of operational functionality and effects of...” to a more defined “...have knowledge of purpose, limitations, and effects of the Composite Protection Systems and Remedial Action Schemes that are necessary to perform its Real-time monitoring in order to maintain generation-Load-Interchange balance” This revised language is intended to enable the Balancing Authority to establish clear objectives and requirements for operating personnel in order to comply with the standard.

Response: The drafting team thanks you for your comment and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

The drafting team disagrees with the suggestion to add “purpose and limitation” to the requirements. The reliability objective is to have knowledge of the “operational functionality” and “effects.”

The drafting team also revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer: No

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

Selected Answer: Yes

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6
Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Selected Answer:

No

Answer Comment:

A utility cannot measure or demonstrate that anyone has “requisite knowledge”. All we can do is provide training and other technical information. That should be the performance we are judged on. As an example of our concern, what happens if an operator forgets some details of a RAS’s operation and we have an event as a result? In this case, there might be an automatic violation of the standard, no matter how much training or technical information we provide. For this reason, “have requisite knowledge” is no better than “be familiar with” (the current language). At least the industry understands what the auditors are looking for under the current language (training records).

Related to the above point, the proposed measure is disconnected from the requirement language. We can provide all of those things to our operators (training, operating guides, manuals, etc.), but none of them can prove that the personnel have “requisite knowledge”.

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

Response: The drafting team thanks you for your comment and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.” The drafting team disagrees with the suggestion to add “purpose and limitation” to the requirements. The reliability objective is to have knowledge of the “operational functionality” and “effects.”

The drafting team also revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Ben Engelby - ACES Power Marketing - 6 -

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

Answer Comment: We have concerns that the types of evidence listed in the measures does not carry the same weight in an audit. Would an operating manual be sufficient in lieu of training records?

This standard should not be located in the TOP standards because it goes beyond transmission operations. This standard directly relates to personnel performance, training, and qualifications, which is the title of the PER family of standards. Whether it fits into PER-005 or a separate standard, the drafting team needs to consider moving this standard to the appropriate place.

Response: Thank you for your comments.

The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as

2. As the Balancing Authority, do you agree that TOP-009-1, Requirement R2 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Balancing Authority? If not, please explain why or why not.

well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -

Selected Answer: Yes

Thomas Foltz - AEP - 5 -

Selected Answer: No

Answer Comment: Requirement R3 and the Application Guide imply that the control room operator is applicable to this requirement; however this employee may be part of the GO function rather than the GOP. If the GO and GOP are different entities, the GOP may not be able to implement and administer training for personnel at the facility. If the intent is to train all employees, we believe this requirement should be applicable to both to the GOP *and* GO.

Response: The SDT asserts that it is incumbent on the entity to be registered as a Generator Operator or have the necessary agreements in place with an entity registered as such to perform Generator Operator functions.

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Likes:	1	Luminant - Luminant Generation Company LLC, 5,6,7, Hughes Alshare
Dislikes:	0	
Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -		
Selected Answer:	Yes	
Alshare Hughes - Luminant - Luminant Generation Company LLC - 5,6,7 - TRE		
Selected Answer:	No	
Answer Comment:	<p>It partially addresses the existing requirement in that it maintains GOP having knowledge of the purpose and limitations of system protection, but the requirement to “have knowledge of operational functionality of composite protection system” is too vague due to the complexity of protection system functionalities. It is not practical to require GOP operations personnel of expertise on the functionality of protection systems.</p> <p>The requirement for GOP should result in the designated personnel maintaining situational awareness of the protection systems and having the ability to accurately report an incident (i.e. the protection system/schemes and its associated equipment) to TOP or</p>	

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

internal/external system protection experts.

Additionally, R3 partially goes beyond the existing PRC-001 requirements and, as written, could have unintended negative consequences. Requiring GOP to have this specific knowledge could lead to personnel taking ill-advised actions based upon that information. Taking action based on partial information in real time operation could lead to negative impacts on BES reliability.

The inclusion of Remedial Action Schemes is an enhancement to the requirement. Operators are expected to take action based on RAS operation unlike composite protection system operation.

Alternative language for consideration:

“R3. Each Generator Operator shall ensure its personnel responsible for Reliable Operation of its generating Facilities have:

- i) basic knowledge of Composite Protection Systems and
- ii) knowledge of operational functionality of Remedial Action Schemes and their effects on its Facility(ies)

as necessary to maintain reliability.”

A basic, elemental or fundamental knowledge of the Composite Protection Systems seems to be the appropriate level for GOP based on

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

the impact on the BES. There is a need for more detailed knowledge on Remedial Actions Schemes as operational decisions are made by GOPs based on RAS.

Response: The drafting team thanks you for your comment and has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

The drafting team also revised Requirement R3 to address concerns about the Generator Operator.

Likes: 2 Luminant - Luminant Generation Company LLC, 5, Terrill Rick
Luminant Mining Company LLC, 7, Rake Stewart

Dislikes: 0

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

Group Name: Dominion NCP

Group Member Name	Entity	Region	Segments
Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Selected Answer: Yes

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: No

Answer Comment:

We expressed a concern during the webinar that in R3 it is not clear who is the "Generator Operator personnel responsible for Reliable Operation of ... generating Facilities"; are these folks at the gen stations or at the control center? It was explained by the SDT that for entities with multiple plants that are centrally dispatched it is the folks at the control center. For entities with a single plant it is folks at the plant.

This was a very good explanation however we would like that documented in the Standard, the RSAW, or the Application Guidelines.

Some suggested language might be, borrowing some from PER-005-2:

"This includes personnel at a centrally located dispatch center who receive direction from the Generator Operator's Reliability Coordinator,

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Balancing Authority, Transmission Operator, or Transmission Owner, and may develop specific operating plans and dispatch instructions for plant operators under their control. These personnel do not include plant personnel located at a generator plant site unless the entity is dispatching a single plant, in which case the plant personnel are included."

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

The drafting team will provide NERC Compliance staff comments regarding the RSAW and input on potential revisions.

The drafting team also revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Likes: 1 Platte River Power Authority, 5, Archie Tyson

Dislikes: 0

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Answer Comment: Please see our comment under Q1.

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Response (From question #1 above): The drafting team thanks you for your comments. Even though there are no “GOP” family of standards, the “TOP” standards provide the most suitable place to address the knowledge required by the BA, GOP, and TOP. The “TOP” standards include applicable entities other than the BA and TOP.

The PER standards are about personnel training and the proposed TOP-009-1 standard requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team contends that the Reliability Coordinator responsibilities listed under the NERC Functional Model are not consistent with the reliability objective of TOP-009-1. This is because the information needed by the Reliability Coordinator is inferred in other standards. For example, IRO-002-4 (*Reliability Coordination — Monitoring and Analysis*) and IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) both pending FERC approval require the Reliability Coordinator obtain the data it needs to ensure reliability, and PRC-012-2 (*Remedial Action Schemes*) currently under development requires the Reliability Coordinator to conduct a RAS review; therefore, the SDT does not believe there is a gap in reliability by not including the Reliability Coordinator. The Reliability Coordinator leverages the expertise of its Transmission Operator and Balancing Authority entities regarding Protection Systems and RAS.

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: Yes

Michelle Amarantos - APS - Arizona Public Service Co. - 1 -

Selected Answer: No

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Answer Comment: See comments above.

Response: (From #1 above): The drafting team thanks you for your comment and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: Yes

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

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

Group Member Name	Entity	Region	Segments
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3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

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

Selected Answer: Yes

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Selected Answer: Yes

Answer Comment: Occidental Chemical Corporation (OCC) agrees that the construction of Requirement R3 is directionally correct. It defines the target audience that must have Protection System knowledge, a sense of the content required, and the capabilities expected of the knowledgeable personnel afterwards. This is clearly superior to the requirement it is replacing (PRC-001 R1) in our opinion. However, the use of the Glossary term “Reliable Operations” is of concern. Reliable Operations identifies the reliability of the Bulk-Power System (BPS) as the primary concern, while this TOP-009-1 requirement applies to the BES. This is not just a matter of semantics, as the BPS is vague and the BES is defined.

We suggest that you use the language used in the Applicable Entities section of the Application Guidelines:

Each Generator Operator shall ensure its personnel responsible for **operating and maintaining the reliability** of its generating Facilities have knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes necessary to operate its generating Facilities in order to maintain BES reliability.

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer: No

Answer Comment: R3 of TOP-009-1, like PRC-027-1, creates concern that GOPs are being pulled into “big picture” issues that are outside of our scope of involvement. Specifically, R3 requires that “Each Generator Operator shall ensure its personnel responsible for Reliable Operation of its generating Facilities have knowledge of operational functionality and effects of Composite Protection Systems [CPSs] and Remedial Action Schemes [RASs] necessary to operate its generating Facilities in order to maintain BES reliability.”

The definition of RAS includes schemes that “Maintain Bulk Electric System (BES) stability,” “Maintain acceptable BES voltages,” “Maintain acceptable BES power flows,” and “Limit the impact of Cascading or extreme events.” These are not GOP issues. The potential for “Composite Protection Systems” to require that GOPs understand TO schemes is also a concern.

R3 appears to try to forestall any burdensomeness in these respects by stating that such systems are brought into play for GOPs only if they are, “necessary to operate its generating Facilities.” How would we know the

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

full complement of RASs and CPSs that exist, however, much less how they might affect our generation plants?

R3 should begin by requiring that BAs and TOPs inform GOPs if and how RASs and CPSs affect generation plants, and should then state that GOPs must communicate this information to the appropriate personnel.

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

Michelle D'Antuono - Oxy - Ingleside Cogeneration LP - 5 -

Selected Answer: Yes

Answer Comment: Ingleside Cogeneration LP agrees with comments submitted by Occidental Chemical Corporation.

Response: Please see the response for “Venona Greaff - Oxy - Occidental Chemical” above.

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer: Yes

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Erika Doot - U.S. Bureau of Reclamation - 5 -

Selected Answer: No

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: Yes

Answer Comment: Duke Energy agrees that R3 of TOP-009-1 addresses the reliability need that currently exists in PRC-01-1.1(ii). However, we echo our concerns voiced regarding R1. We believe that the responsibilities levied by R3 goes beyond what is currently the expectation in PRC-001-1.1(ii). Currently the requirement appears to indicate that a Generator Operator's personnel will be responsible for having knowledge of the Composite Protection Schemes and Remedial Action Schemes necessary to operate all of its generating Facilities. We believe that this would be very difficult for larger entities that have many generating

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Facilities (which are all unique) to ensure that its personnel responsible for operation of one Facility, are knowledgeable of the Composite Protection Schemes and Remedial Action Schemes of another Facility that they may not be familiar with.

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

Mark Kenny - Eversource Energy - 3 -

Selected Answer: Yes

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

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: No

Answer Comment: We would ask the drafting team to provide some clarity on what Generator Operator personnel is being impacted in reference to Requirement R3 of the TOP-009-1 Standard. For example in the PER-005-2 Standard Applicability Section 4.1.5.1, there are specific personnel who are clearly listed in the standard pertaining to the Generator Operator personnel and how they're impacted. We feel that this clarity will provide valuable insight for auditing purposes and help with communication efforts between the entity being audited and the auditor.

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: Yes

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Answer Comment:

TOP-009-1, Requirement R3 addresses the reliability need (and perhaps more) of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator.

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer:

No

Answer Comment:

The standard language as proposed requires system control operators to have in depth knowledge of protection systems in their area. This is a significant increase in the training and knowledge required for system operators, without necessarily increasing the reliability benefit. System control operators currently have access to this expertise without being individually required to obtain it and retain it through field work with the relay engineers.

Response: The drafting team thanks you for your comments and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations "TOP" Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

There are no provisions for personnel to have access to other personnel (e.g., an on-call staff). Utilizing on-call staff would transfer the responsibilities of real-time operations onto the on-call person.

Likes: 2 Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott
Tallahassee Electric (City of Tallahassee, FL), 3, Williams John

Dislikes: 0

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Answer Comment: **Please see our comment under Q1. Should such comments not be adopted, ERCOT recommends the following revision:**

R3. Each Generator Operator shall identify the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes necessary to operate its generating Facilities in order to maintain BES reliability and shall develop and implement training for its personnel that operate its generating Facilities through its systematic

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

approach to training. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Selected Answer: No

Answer Comment: R3 should only include protection and Remedial Action Schemes that directly affect the generator. For example a RAS that includes a generator runback certainly would be included. But a nearby transmission RAS would not. The reason is the GOP needs to know how the generator is impacted, not how the transmission system is impacted. For transmission only, the GOP just needs to implement direction from the TOP, if necessary, post operation of a RAS.

Response: Thank you for your comment. The drafting team revised Requirement R3 to address concerns about the Generator Operator.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Answer Comment: **Please see our comment under Q1. Should such comments not be adopted, ERCOT recommends the following revision:**

R3. Each Generator Operator shall identify the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes necessary to operate its generating Facilities in order to

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

maintain BES reliability and shall develop and implement training for its personnel that operate its generating Facilities through its systematic approach to training. [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: Yes

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: Yes

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1
Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer:

No

Answer Comment:

R3 states that “Each Generator Operator shall ensure its personnel responsible for Reliable Operation of its generating Facilities have knowledge....”

Measure for R3 (see below) indicates certain evidence can demonstrate compliance (training, operating guides, etc). But a review of the RSAW indicates that “if necessary, auditors may perform interviews”, yet, does not seem to be any clear boundaries when interviews can be utilized by auditors or what can be asked of Operators during an interview. Plus, how it is determined whether an operator has required knowledge is very subjective (“reasonable assurance”). And additionally, who determines which personnel can be interviewed, is not necessarily clear.

Possibly through added language to the measures, clarify that compliance can be demonstrated with documentation and “in absence of documentation, interviews may be held”. If interviews are in addition to documentation, then that is expanding what is currently stated in the standard.

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

M3 “Each Generator Operator shall have evidence that demonstrates the knowledge according to Requirement R3. Evidence may include, but is not limited to, the following: training (including the effects on the Generator Operator area), operating guides, manuals, procedures, interconnection agreements or studies, or access to third-party documentation.”

RSAW language: “...If necessary, auditors may interview applicable Generator Operator personnel that are required to have knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes to obtain reasonable assurance that the required knowledge exists.”

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

The drafting team will also provide NERC Compliance staff comments regarding the RSAW and input on potential revisions.

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

Selected Answer: No

Answer Comment: Texas RE is concerned that the SDT only addressed Generator Operators knowledge of Remedial Action Schemes and Composite Protection Systems within a generating Facility per the application Guideline

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

discussion of Requirement 3. RASs and Composite Protection Systems can often trip lines or equipment NOT in a generation Facility that impact the ability to “operate its generating Facilities in order to maintain BES reliability.”

Response: The drafting team thanks you for your comment and has revised Requirement R3 to address concerns about the Generator Operator. If a Remedial Action Scheme not applied at the generating Facility and affects the output of the generator Facility, then there is a requirement on the Generator Operator to have knowledge.

Shawna Speer - Colorado Springs Utilities - 1 -

Selected Answer:

Answer Comment:

The SDT's comments on the August 25th/26th project webinar Q&A recording, beginning at approximately 39 minutes, evidences a significant lack of understanding by SDT, NERC, and FERC OER personnel of the intent and outcomes of the Systematic Approach to Training (SAT) process found in PER-005-2. The SAT process, properly applied, does not result in only "minimal/basic" levels of knowledge and does not necessarily result in a "once and done" delivery of that training. Also, the use of the regrettable, newly-approved term, "Composite Protection System," will not, as the SDT avers, provide clarity in an audit environment when it comes to the proposed Standard. Additionally, as pointed out elsewhere in the webinar, the pending TOP-003-3 requires TOPs & BAs to identify and request (and other appropriate stakeholders to supply) data necessary to perform Operational Planning Analyses,

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Real-time monitoring, and Real-time Assessments. The data contemplated in the proposed TOP-009-1 would certainly already fall within TOP-003-3.

Response: Thank you for your comment.

The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

The drafting team selected the NERC defined term “Composite Protection System” (introduced in PRC-004-3) because it most closely matches the intent of the requirement to address the level of operational functionality at a scheme level rather than the individual components of the defined term “Protection System.” The Composite Protection System definition is based on the principle that an Element’s multiple layers of protection are intended to function collectively. The use of this term clarifies that the operational functionality of an Element’s total complement of protection should be considered. The term “Protection System scheme” used in PRC-001-1.1(ii) is being replaced by “Composite Protection System” to clarify this intent.

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Laurel Brandt - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: Yes

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

Selected Answer: No

Answer Comment: These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

Comments: The term “knowledge” in R3 is a change from the previous requirement in PRC-001-1.1(ii), intended to add clarity. LG&E/KU

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

believes it remains vague and open to auditor interpretation. LG&E/KU proposes the language be changed from "...have knowledge of operational functionality and effects of..." to a more defined "...have knowledge of purpose, limitations, and effects of..." This revised language is intended to enable the Generator Operator to establish clear objectives and requirements for operating personnel in order to comply with the standard.

Response: The drafting team thanks you for your comments.

The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term "knowledge."

The drafting team disagrees with the suggestion to add "purpose and limitation" to the requirements. The reliability objective is to have knowledge of the "operational functionality" and "effects."

The drafting team also revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

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

Selected Answer: Yes

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1
Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6
Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Selected Answer: No

Answer Comment: A utility cannot measure or demonstrate that anyone has “requisite knowledge”. All we can do is provide training and other technical information. That should be the performance we are judged on. As an example of our concern, what happens if an operator forgets some details of a RAS’s operation and we have an event as a result? In this case, there might be an automatic violation of the standard, no matter how much training or technical information we provide. For this reason, “have requisite knowledge” is no better than “be familiar with” (the

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

current language). At least the industry understands what the auditors are looking for under the current language (training records).

Related to the above point, the proposed measure is disconnected from the requirement language. We can provide all of those things to our operators (training, operating guides, manuals, etc.), but none of them can prove that the personnel have “requisite knowledge”.

Response: The drafting team thanks you for your comments.

The drafting team has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

The drafting team also revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

Ben Engelby - ACES Power Marketing - 6 -

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

Answer Comment: TOP-009-1 creates additional training for GOPs that should have been integrated into PER-005. There will be issues for GOPs to define which personnel are applicable to this standard. There are many uncertainties how auditors will interpret the language of the requirement. This standard needs to be revised to make each requirement measurable.

Response: The drafting team thanks you for your comments.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection

3. As the Generator Operator, do you agree that TOP-009-1, Requirement R3 addresses the reliability need of the first requirement in the existing PRC-001-1.1(ii) for the Generator Operator? If not, please explain why or why not.

System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

The drafting team contends that the requirement is not expanding on the original, but clarifying the knowledge that is required by the BA, GOP, and TOP. The phrase “be familiar with the purpose and limitations of Protection System schemes” was ambiguous and difficult to measure.

The drafting team also revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

John Fontenot - Bryan Texas Utilities - 1 -	
Selected Answer:	Yes
Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -	
Selected Answer:	Yes
Thomas Foltz - AEP - 5 -	
Selected Answer:	Yes
Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -	
Selected Answer:	Yes
Molly Devine - IDACORP - Idaho Power Company - 1 -	
Selected Answer:	No
Answer Comment:	No, I think High and Severe are two high. If most but not all have the required training would this be a High violation, I don't believe that it is. I

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

think it could possibly be based on a percentage of the operating personnel that did not have the knowledge of protection or RAS.

The VSL justification implies that the Transmission Operator failed to have knowledge of functionality and/or effects. This seems like an ambiguous term. It would be beneficial if the VSL identified a quantifiable value of knowledge for personnel.

Response: The drafting team thanks you for your comment and has revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

David Blackshear - Gridforce Energy Management, LLC - 5 -

Selected Answer: Yes

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: Yes

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Answer Comment:

We do not agree with the proposed VRFs and VSLs since we do not agree with this standard.

Response: The drafting team thanks you for your comment.

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer:

No

Answer Comment:

Misunderstanding a relay scheme or having what an auditor deems is not sufficient familiarity does not prevent the relay from operating. Having a high VRF along with the way the VSLs are constructed makes this an irrational sanction. To our knowledge, no violation of PRC-001 R1 has never resulted in a system event. The VRF for the TOP should be Medium and Low for the other two entities.

We also disagree with the generic approach used whereby all binary VSLs be Severe or that the VSLs are skewed to the Severe end of the scale. This complicates the resolution of potential violations and generally precludes minor infractions from being treated as Compliance Exceptions. The standard drafting process should catch up with the concepts of RAI.

Response: The drafting team thanks you for your comments and contends that the TOP-009-1 narrows the scope of Composite Protection Systems and Remedial Action Schemes to those associated with the Operational Planning

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Analysis, Real-time monitoring, and Real-time Assessments and not all Composite Protection Systems and Remedial Action Schemes. Because the set is narrowed to the more critical Composite Protection Systems and Remedial Action Schemes, the drafting team has assigned a VRF of High to the Requirements.

The drafting team revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Michelle Amaranos - APS - Arizona Public Service Co. - 1 -

Selected Answer: No

Answer Comment: APS does not believe the descriptions of “high” and “severe” are adequately exclusive of one another. Failure to understand the effects of a system of schemes implies an incorrect understanding of that system or scheme. APS would recommend the thresholds would be more appropriately delineated by applying the concepts of risk and controls. For example, “Moderate” might state “TOP/BA/GOP failed to ensure no more than one of its personnel have knowledge. “High” might be more than one but not more than two of its personnel. And “Severe” would be more than two of its personnel. These levels account for whether the entity has controls in place and whether the non-compliance represented a failure of that control or a complete lack of process.

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Response: The drafting team thanks you for your comments and has revised the VSLs to be graded based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: Yes

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

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

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6
Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

Selected Answer: No

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Selected Answer: Yes

Donald Lock - Talen Generation, LLC - 5 -

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Selected Answer:	Yes
Joshua Smith - Joshua Smith On Behalf of: Rod Kinard, Oncor Electric Delivery, 1	
Selected Answer:	Yes
Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1	
Selected Answer:	No
Erika Doot - U.S. Bureau of Reclamation - 5 -	
Selected Answer:	No
Mark Kenny - Eversource Energy - 3 -	
Selected Answer:	Yes
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP	
Group Name:	SPP Standards Review Group

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: Yes

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: Yes

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Answer Comment:

ERCOT reiterates its general objections to the proposed reliability standard TOP-009-1 and, further, does not agree with the proposed VRFs and VSLs as they do not present definitive measures of compliance with the proposed requirements. Specifically, an entity can train all personnel in an effort to ensure that such personnel have the requisite knowledge; however, it cannot ensure the depth, breadth, and scope of the knowledge and understanding attained by each individual staff member over the course of time. Using the VSL for Requirement R1 as an example, a better VSL to be utilized for each requirement would be:

Each Transmission Operator failed to train its personnel that perform Operational Planning Analyses, Real-time monitoring, and Real-time Assessments on the operational functionality or effects of Composite Protection Systems and Remedial Action Schemes that were identified.

Each Transmission Operator failed to train its personnel on the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that were identified.

Response: The drafting team thanks you for your comments.

The drafting team has revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Answer Comment: ERCOT reiterates its general objections to the proposed reliability standard TOP-009-1 and, further, does not agree with the proposed VRFs and VSLs as they do not present definitive measures of compliance with the proposed requirements. Specifically, an entity can train all personnel in an effort to ensure that such personnel have the requisite knowledge; however, it cannot ensure the depth, breadth, and scope of the knowledge and understanding attained by each individual staff member over the course of time. Using the VSL for Requirement R1 as an example, a better VSL to be utilized for each

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

requirement would be:

Each Transmission Operator failed to train its personnel that perform Operational Planning Analyses, Real-time monitoring, and Real-time Assessments on the operational functionality or effects of Composite Protection Systems and Remedial Action Schemes that were identified.

Each Transmission Operator failed to train its personnel on the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that were identified.

Response: The drafting team thanks you for your comments.

The drafting team has revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: Yes

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: Yes

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: Yes

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

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

Selected Answer: No

Answer Comment: BPA proposes that the VRFs be set to Medium. These requirements are not the only controls BPA has in place to ensure our systems operate correctly or to ensure that our system operators and operation support personnel react appropriately when they do not.

Response: The drafting team thanks you for your comment and contends that the TOP-009-1 narrows the scope of Composite Protection Systems and Remedial Action Schemes to those associated with the Operational Planning Analysis, Real-time monitoring, and Real-time Assessments and not all Composite Protection Systems and Remedial Action Schemes. Because the set is narrowed to the more critical Composite Protection Systems and Remedial Action Schemes, the drafting team has assigned a VRF of High to the Requirements.

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: Yes

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1
Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3
Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer: No

Answer Comment: Comments: “high and severe” are inappropriate for requirements that are related to training. Plus, the evaluation of compliance is subjective in nature, since it references “ensurepersonnelhave knowledge”. How is that assessed? This should be lower than “high and severe”

Response: The drafting team thanks you for your comment and has revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

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

Selected Answer: No

Answer Comment: Texas RE suggests removing the term “each” in the VSL for R1. The TOP is only responsible for that TOP and not all TOPs. This is also consistent with the VSLs for R2 and R3.

Response: Thank you for your suggestion. The drafting team corrected the “Each” and “The” inconsistency in the VSL.

Shawna Speer - Colorado Springs Utilities - 1 -

Selected Answer: No

Answer Comment: Should correspond with PER-005-2

Response: The drafting team thanks you for your comments and has revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion. This is consistent with the PER-005 VSL approach.

Laurel Brandt - Tennessee Valley Authority - 1,3,5,6 - SERC

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Selected Answer: Yes

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU Energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

Selected Answer: No

Answer Comment: These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

Comments: It is unclear why the VSL for R1 refers to “[E]ach” TOP as opposed to “[T]he” TOP. Also, in the case of a real-time event investigation (as opposed to an audit), the VSLs appear to focus subjectively on the knowledge of individual operators rather than the

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

steps taken by operational entities (to whom the standard purportedly applies) to impart the requisite level of knowledge to relevant operating personnel. Suggested rewording of the VSL:

The [operational entity] failed to provide training and information that would reasonably be expected to ensure the personnel described in Requirement R# have knowledge of the purpose, limitations, and effects of Composite Protection Systems and Remedial Action Schemes.

Response: The drafting team thanks your for your comment and has corrected the “[E]ach” and “[T]he” inconsistency in the VSL.

The drafting team also revised the VSLs to be gradated based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer:

No

Answer Comment:

The SRC reiterates its general objections to the proposed reliability standard TOP-0091 and, further, does not agree with the proposed VRFs and VSLs as they do not present definitive measures of compliance with the proposed requirements. Specifically, an entity can train all personnel in an effort to ensure that such personnel have the requisite knowledge; however, they cannot ensure the depth, breadth, and scope of the knowledge and understanding attained by each individual staff member over the course of time. Using the VSL for Requirement R1 as example, a better VSL to be utilized for each requirement would be:

Each Transmission Operator failed to train its personnel on the operational functionality or effects of Composite Protection Systems and Remedial Action Schemes.

Each Transmission Operator failed to train its personnel on the

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

operational functionality and effects of Composite Protection Systems and Remedial Action Schemes.

Response: The drafting team thanks you for your comment and has revised the VSLs to be graded based on a percentage of the personnel for which the entity failed to ensure its personnel have the knowledge of Composite Protection Systems and RAS. The VSLs have removed the “operational functionality and/or effects” to avoid confusion.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

The drafting team contends that the requirement is not expanding on the original, but clarifying the knowledge that is required by the BA, GOP, and TOP. The phrase “be familiar with the purpose and limitations of Protection System schemes” was ambiguous and difficult to measure.

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

Selected Answer:

Yes

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Ben Engelby - ACES Power Marketing - 6 -

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

4. Do you agree with the proposed Violation Risk Factors (VRF) and Violation Severity Levels (VSL) for the proposed requirements? If not, please provide a basis for revising a VRF and/or what would improve the clarity of the VSLs.

Answer Comment:

We disagree with the drafting team's choice of language for this standard, therefore we disagree with the ranking of VRFs and VSLs associated with the requirements.

Response: Thank you for your comment.

**Oshani Pathirane - Oshani Pathirane On Behalf of: Paul Malozewski, Hydro One Networks, Inc., 1, 3
Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3**

Selected Answer:

No

Answer Comment:

Hydro One Networks Inc. believes that a medium Violation Risk Factor would be more appropriate for requirement R1 (Hydro One will only be providing comments on R1 from a TOP-perspective) as typically, implications would be localized and not result in widespread outages or cascading blackouts.

Response: The drafting team thanks you for your comments and contends that the TOP-009-1 narrows the scope of Composite Protection Systems and Remedial Action Schemes to those associated with the Operational Planning Analysis, Real-time monitoring, and Real-time Assessments and not all Composite Protection Systems and Remedial Action Schemes. Because the set is narrowed to the more critical Composite Protection Systems and Remedial Action Schemes, the drafting team has assigned a VRF of High to the Requirements.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

John Fontenot - Bryan Texas Utilities - 1 -	
Selected Answer:	Yes
Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -	
Selected Answer:	Yes
Thomas Foltz - AEP - 5 -	
Selected Answer:	No
Answer Comment:	Please see response to Question #3.
Response (From question #3): The SDT asserts that it is incumbent on the entity to be registered as a Generator Operator or have the necessary agreements in place with an entity registered as such to perform Generator Operator functions.	
Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -	
Selected Answer:	Yes

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Alshare Hughes - Luminant - Luminant Generation Company LLC - 5,6,7 - TRE

Selected Answer: No

Answer Comment: The Application Guidelines are in place to provide additional clarity for the regulatory requirements without expanding the requirements. This detailed guidance provides unintended confusion and potential expansion of the requirements. Some of the areas needing attention are as follows:

The stated purpose of the standard is appropriate, but the proposed language and structure neglects the different functions performed by the registered entities. The TOP, BA, or GOP functional responsibilities have different impacts on BES reliability however the standard language and this guidance handles them in the same manner. The risks to the BES is different for each entity and a greater focus is needed on their specific roles. GOP has minimal impact on the reliable operation of the BES compared to the TOP and BA.

Real time action should not be taken without appropriate information and expertise. That expertise is typically not centered in the real time GOP operations personnel. All aspects (design, testing and maintenance and operation/misoperation) of protection systems are covered by other standards (including PRC-027 subject to approval) and are enforced. GOPs detailed understanding of theses protection system does not improve the reliability of the BES.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

The guidelines should be revised to specifically state that the requirements for a GOP are intended for more effective communication with TOPs and BAs rather than making operational decisions based on the knowledge. GOP

operation personnel are tasked with operating the facility(ies) and not tasked with having detailed knowledge of

BES and maintaining the reliability of the BES. The guidelines make the understanding of the requirement too specific and causes interpretation issues for compliance and enforcement.

For GOP, the only personnel to ensure duties as listed under the “Personnel Responsible for Reliable Operations” are the technical SME. It should be acceptable for the GOP to access the necessary expertise when needed. The GOP functional duties and impact on the BES is different than that of the TOP and BA. It seems appropriate to address the different responsibilities of the GOP as such rather than applying a broad brush to the requirement and guidance while recognizing a difference in the measures.

The last statement on R3 guidance should be deleted as this is already covered in Relay Misoperation standard and does not need to be included here. The verification that the Composite Protection System or RAS functions as expected cannot be determined in real time, but confirmed in data analysis after the fact.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Response: The drafting team thanks you for your comments and has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

The sentence “Additionally, this would include whether the Composite Protection System or RAS functions as expected or failed to operate” has been deleted because it is inconsistent with the PRC-004 Reliability Standard addressing Misoperation of Protection Systems.

The drafting team revised Requirement R3 to address concerns about the Generator Operator.

The drafting team revised Requirement R3 to address concerns about the Generator Operator.

The drafting team disagrees that the intent of the requirement is to improve communications.

The sentence “Additionally, this would include whether the Composite Protection System or RAS functions as expected or failed to operate” has been deleted because it is inconsistent with the PRC-004 Reliability Standard addressing Misoperation of Protection Systems.

Likes: 1 Luminant Mining Company LLC, 7, Rake Stewart

Dislikes: 0

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

Group Name: Dominion NCP

Group Member Name	Entity	Region	Segments

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

Selected Answer: Yes

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: Yes

David Blackshear - Gridforce Energy Management, LLC - 5 -

Selected Answer: Yes

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: Yes

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Answer Comment:

We do not agree with the draft Application Guideline since it is developed for the proposed standard, which we do not agree with.

Response: The drafting team thanks you for your comments.

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer:

No

Answer Comment:

The application guide goes beyond what was intended in the existing PRC-001.

The bullet list for R1, particularly when coupled to the word “knowledge” and “including, but not limited to” is well beyond the scope of a Transmission Operator. An Operator should have a working knowledge of protection systems and a job aid or information resource that helps them answer questions and troubleshoot problems. Additionally, access to an on-call protection engineer significantly benefits reliability, much more than a database or a PowerPoint.

For R2, the BA should be aware of the RAS in their area and the associated contingency if the were to operate (or fail to operate). Additionally, some BAs are precluded from having knowledge of the real time transmission system.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

For R3, it could be the composite knowledge of the operating and management staff of the GOP.

Response: The drafting team thanks you for your comments and has revised the Application Guidelines under Requirement R1 to address the scope of the knowledge. The drafting team agrees that the access to an on-call protection engineer is beneficial; however, an on-call person that is not responsible for Reliability Operations (i.e., real-time) does not meet the intent of the requirement. The drafting team contends that Balancing Authorities need to understand the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that affect their area. The drafting team contends that personnel responsible for real-time control of the generating Facility must have the knowledge of Composite Protection Systems and Remedial Action Schemes that affect the output of the generating Facility.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Michelle Amaranos - APS - Arizona Public Service Co. - 1 -

Selected Answer: Yes

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: No

Answer Comment: The Application Guidelines should give more guidance on what personnel the training pertains to and what constitutes sufficient evidence to demonstrate knowledge and effects on the BES for the Composite Protection System and RAS for those personnel. System Operators receive general protection system training. Is a record of this training sufficient? Is the availability of operating manuals, operating guides and procedures sufficient? More guidelines should be provided on what content should be included in protection training materials and operating manuals.

Response: The drafting team thanks you for your comments. Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time (i.e., “Reliable Operation”) of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel. The Application Guidelines do not specify training, but the knowledge that is required. Training is one method an entity may use to comply with the requirements. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

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

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

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

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

Selected Answer:

No

Answer Comment:

Second paragraph of Applicable Entities (page 9) states “The BA, GOP and TOP will identify personnel...” . The NSRF recommends the word “will” be replaced with “should” . NERC has published a draft concerning

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

“Compliance Guidance Policy”, dated 28 August 2015. The first principle for compliance guidance is “Guidance documents cannot change the scope or purpose of the requirements of the Reliability Standard. By replacing “will” with “should”, the SDT’s guidance does not change the scope of the Requirements.

In several places the SDT explains the term “Composite Protection System”. NERC defines this as: “The total complement of Protection System(s) that function collectively to protect an Element”. It is recommended that the SDT provided a simple one line drawing of a Composite Protection System. This would then give a visual to the applicable entities and the section labeled “Ownership” (page 10) could be deleted. If the SDT does not agree with the one line recommendation, please accept the following comments on “Ownership”.

Recommend the word “identified” be add between “The” and “personnel” in the beginning of the sentence. It would then read “The identified personnel”. This is in line with comments made to question 5. The words of “regardless of ownership.” At the end of the sentence should be removed. The definition of Composite Protection System already states that it is the total complement of Protection Systems collectively that protects the Element. This would also remove the risks of someone reading this statement and thinking a GOP would need to know all the TOPs Protection Systems because the SDT used “regardless of ownership”.

Page 12 lists two examples. Recommend the word “may “be inserted in

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

the following examples.

1. “For example, the knowledge and their effects on the BES “may” include...” and
2. “Examples of Composite Protection Systems and RAS to consider “may” include...” By adding “may” the guidance does not change the scope of the Requirements, but rather, it gives examples of what could be studied for an Entity to gain the required Knowledge.

Response: The drafting team thanks you for your comments.

The drafting team inserted the word “may” to address the concern.

The drafting team has deleted the “Ownership” section as it adds no additional value. The Composite Protection System is based upon the protection of an Element and not the ownership of the individual components. The drafting team has not added a simple one-line drawing because there are numerous configurations of Composite Protection Systems and levels of complexity.

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Selected Answer:

Yes

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer:

No

Answer Comment:

R3 of TOP-009-1, like PRC-027-1, creates concern that GOPs are being pulled into “big picture” issues that are outside of our scope of involvement. Specifically, R3 requires that “Each Generator Operator shall ensure its personnel responsible for Reliable Operation of its generating Facilities have knowledge of operational functionality and effects of Composite Protection Systems [CPSs] and Remedial Action Schemes [RASs] necessary to operate its generating Facilities in order to maintain BES reliability.”

The definition of RAS includes schemes that “Maintain Bulk Electric System (BES) stability,” “Maintain acceptable BES voltages,” “Maintain acceptable BES power flows,” and “Limit the impact of Cascading or extreme events.” These are not GOP issues. The potential for “Composite Protection Systems” to require that GOPs understand TO schemes is also a concern.

R3 appears to try to forestall any burdensomeness in these respects by stating that such systems are brought into play for GOPs only if they are, “necessary to operate its generating Facilities.” How would we know the

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

full complement of RASs and CPSs that exist, however, much less how they might affect our generation plants?

R3 should begin by requiring that BAs and TOPs inform GOPs if and how RASs and CPSs affect generation plants, and should then state that GOPs must communicate this information to the appropriate personnel.

Response: The SDT revised Requirement R3 to address concerns about the Generator Operator.

Joshua Smith - Joshua Smith On Behalf of: Rod Kinard, Oncor Electric Delivery, 1

Selected Answer: No

Answer Comment: *Oncor Electric Delivery (Oncor) noticed that in the Application Guidelines for Req. 1 there are listed examples of knowledge and effects of RAS' and Protection Systems that Transmission Operators must be trained in to reliably operate the BES. One of the examples listed is "Operational Planning Analysis". If the intent of R1 is for real time operations employees (Grid Operators) working in real time for reliability of the Grid, then Operational Planning Analysis training would be out of scope.*

The NERC Glossary defines Operational Planning Analysis as:

An analysis of the expected system conditions for the next day's operation. (That analysis may be performed either a day ahead or as much as 12 months ahead.) Expected system conditions include things

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

such as load forecast(s), generation output levels, and known system constraints (transmission facility outages, generator outages, equipment limitations, etc.).

Oncor suggest the removal of Operational Planning Analysis from the Application Guidelines, with the understanding that the intent of the standard is aimed at real time operations and not transmission planning.

Response: The drafting team thanks you for your comment and has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer:

No

Answer Comment:

ITC Holdings agrees with the comments submitted by NSRF. A copy of NSRF's comments are provided below.

Second paragraph of Applicable Entities (page 9) states "The BA, GOP and TOP will identify personnel..." . The NSRF recommends the word "will" be replaced with "should" . NERC has published a draft concerning "Compliance Guidance Policy", dated 28 August 2015.. The first principle for compliance guidance is "Guidance documents cannot change the

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

scope or purpose of the requirements of the Reliability Standard. By replacing “will” with “should”, the SDT’s guidance does not change the scope of the Requirements.

In several places the SDT explains the term “Composite Protection System”. NERC defines this as: “The total complement of Protection System(s) that function collectively to protect an Element”. It is recommended that the SDT provided a simple one line drawing of a Composite Protection System. This would then give a visual to the applicable entities and the section labeled “Ownership” (page 10) could be deleted. If the SDT does not agree with the one line recommendation, please accept the following comments on “Ownership”.

Recommend the word “identified” be add between “The” and “personnel” in the beginning of the sentence. It would then read “The identified personnel”. This is in line with comments made to question 5. The words of “regardless of ownership.” At the end of the sentence should be removed. The definition of Composite Protection System already states that it is the total complement of Protection Systems collectively that protects the Element. This would also remove the risks of someone reading this statement and thinking a GOP would need to know all the TOPs Protection Systems because the SDT used “regardless of ownership”.

Page 12 lists two examples. Recommend the word “may “be inserted in the following examples.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

1. “For example, the knowledge and their effects on the BES “may” include...” and

2. “Examples of Composite Protection Systems and RAS to consider “may” include...” By adding “may” the guidance does not change the scope of the Requirements, but rather, it gives examples of what could be studied for an Entity to gain the required Knowledge.

Response: The drafting team thanks you for your comment and has inserted the word “may” to address the concern.

The drafting team has deleted the “Ownership” section as it adds no additional value. The Composite Protection System is based upon the protection of an Element and not the ownership of the individual components. The drafting team has not added a simple one-line drawing because there are numerous configurations of Composite Protection Systems and levels of complexity.

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Selected Answer:

No

Answer Comment:

Duke Energy suggests that more information is needed regarding the definition of Composite Protection System, and what it is the drafting team is requiring operators to be knowledgeable of. As written, a Composite Protection System appears to include all the components of a Protection System that are used to protect an element. The reader could safely assume that this includes every relay related component an entity has would fall into this requirement. It is unclear as to what level of knowledge we would need to train our operators. More information and examples are needed to help eliminate the ambiguity we have pointed out above.

Also, from a Training perspective, the Application Guideline provides no direction for an entity to use when attempting to implement a training program that would sufficiently cover what an auditor would be looking for.

Response: The drafting team thanks you for your comments and has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Mark Kenny - Eversource Energy - 3 -

Selected Answer: Yes

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

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: Yes

Answer Comment: We agree that the Application Guidelines provide valuable guidance to the industry in reference to the standard. In our opinion, the examples included in Requirement R1 and R3 are a great addition to the guidance efforts and helps the industry get a better understand on what would be addressed in an audit.

Response: Thank you for your comment.

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: No

Answer Comment: More specific examples of how to comply in the Application Guidelines section would be helpful. This is true for the discussion of all requirements, but especially for Requirement R2 (Balancing Authorities).

For Requirement R1, the Application Guidelines section could expound on what is meant by “necessary to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in order to maintain the reliability of the BES.” The qualifying verbiage suggests that not all Composite Protection Systems and RASs would fall under

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Requirement R1, yet the Applicability section does not include such qualification. Either all applicable Facilities should be included, which is not recommended, or the industry needs clear and reasonable screening tools to identify qualifying Composite Protection Systems and RASs.

For Requirement R2, the Application Guidelines section could expound on what is meant by “necessary to perform its Real-time monitoring or in order to maintain generation-Load-Interchange balance.” The qualifying verbiage suggests that not all Composite Protection Systems and RASs would fall under Requirement R2, yet the Applicability section does not include such qualification. Either all applicable Facilities should be included, which is not recommended, or the industry needs clear and reasonable screening tools to identify qualifying Composite Protection Systems and RASs.

For Requirement R3, the Application Guidelines section could expound on what is meant by “necessary to operate its generating Facilities in order to maintain BES reliability.” The qualifying verbiage suggests that not all Composite Protection Systems and RASs would fall under Requirement R3, yet the Applicability section does not include such qualification. Either all applicable Facilities should be included, which is not recommended, or the industry needs clear and reasonable screening tools to identify qualifying Composite Protection Systems and RASs.

Is it the drafting team’s intention that evidence of compliance with Requirements R1 through R3 would be provided for each Composite Protection System such that an auditor could then sample (like PRC-

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

005)?

Transmission Owners and Generator Owners are not listed in the Applicability section. What role do these functional entities (and even Distribution Providers in limited cases) play in this process? They would typically provide information about Composite Protection Systems and RASs since they are the owners of those Composite Protection Systems and RASs.

Some of the bullets in the Application Guidelines section appear to be redundant (e.g., “Composite Protection System susceptibility to trip on load” and “Composite Protection System impact on loading limits, including System Operating Limits (SOL) and Interconnection Reliability Operating Limits (IROL)”).

Response: The drafting team thanks you for your comments and has improved the Measures in each requirement to address this concern. The drafting team cannot provide examples of how to comply with the standard.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Transmission Owners and Generator Owners are entities that the BA, GOP, or TOP would consult with to ensure they have knowledge of operational functionality and effects of Composite Protection Systems or Remedial Action Schemes.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer:

No

Answer Comment:

The standard language as proposed requires system control operators to have in depth knowledge of protection systems in their area. This is a significant increase in the training and knowledge required for system operators, without necessarily increasing the reliability benefit. System control operators currently have access to this expertise without being individually required to obtain it and retain it through field work with the relay engineers.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Response: The drafting team thanks you for your comment and has revised the Application Guidelines under Requirement R1 to address the scope of the knowledge. The drafting team agrees that the access to an on-call protection engineer is beneficial; however, an on-call person that is not responsible for Reliability Operations (i.e., real-time) does not meet the intent of the requirement. The drafting team contends that Balancing Authorities need to understand the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes that affect their area. The drafting team contends that personnel responsible for real-time control of the generating Facility must have the knowledge of Composite Protection Systems and Remedial Action Schemes that affect the output of the generating Facility.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

Likes: 2 Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott Tallahassee Electric (City of Tallahassee, FL), 3, Williams John

Dislikes: 0

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Answer Comment: ERCOT reiterates its general objections to the proposed reliability standard TOP-009-1 and, further, is concerned that the Application Guidelines are overly prescriptive, contrary to the requirements for an entity to have a Systematic Approach to Training, and result in extending the scope of the proposed requirements in terms of affected personnel and the protection systems and RASs on which personnel must be knowledgeable. More specifically, the Application Guidelines are overly prescriptive in what is considered knowledge. Entities in different areas within different systems with different operating characteristics and arrangements need flexibility to define what is important for their operators and operations. The current guidelines do not provide the flexibility that is necessary to ensure reliability. Further, the prescriptive approach does not correlate with an entity's Systematic Approach to Training. Each entity has designed its training program such that it is most effective within their culture, structure, and operations. The prescriptiveness of the Application Guidelines may create conflicts with currently established programs.

Finally, the Application Guidelines appear to extend the scope of the requirements. The requirements refer to "personnel responsible for the Reliable Operation...." as those personnel to be included within the

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

scope of the requirement, but then include time horizons up to seasonal assessments. The Application Guidelines then describe that entities have the ability to define personnel that fit within this scope, but later reference the planned operation of the BES. Additionally, the Applications Guidelines provide extensive lists of characteristics upon which personnel must be knowledgeable. ERCOT asserts that entities should determine what knowledge and information is necessary for its personnel. Otherwise, personnel may be trained on information that is not necessary for an entity's reliable operations, which may dilute or shift focus on what is necessary.

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time "Reliable Operation" of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel. Time Horizons are not used to identify the personnel, but are used as a factor in determining the size of a sanction. If an entity violates a requirement and there is no time to mitigate the violation because the requirement takes place in real-time, then the sanction associated with the violation is higher than it would be for violation of a requirement that could be mitigated over a longer period of time. Time Horizons are sometimes used interchangeably with "operating" and "planning" horizons. In the standard, both operations and planning are

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

discussed because these personnel will be operators and operations planners conducting the entity's Operational Planning Analysis, etc.

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Selected Answer:

Yes

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Answer Comment: ERCOT reiterates its general objections to the proposed reliability standard TOP-009-1 and, further, is concerned that the Application Guidelines are overly prescriptive, contrary to the requirements for an entity to have a Systematic Approach to Training, and result in extending the scope of the proposed requirements in terms of affected personnel and the protection systems and RASs on which personnel must be knowledgeable. More specifically, the Application Guidelines are overly prescriptive in what is considered knowledge. Entities in different areas within different systems with different operating characteristics and arrangements need flexibility to define what is important for their operators and operations. The current guidelines do not provide the flexibility that is necessary to ensure reliability. Further, the prescriptive approach does not correlate with an entity's Systematic Approach to Training. Each entity has designed its training program such that it is most effective within their culture, structure, and operations. The prescriptiveness of the Application Guidelines may create conflicts with currently established programs.

Finally, the Application Guidelines appear to extend the scope of the requirements. The requirements refer to "personnel responsible for the Reliable Operation...." as those personnel to be included within the scope of the requirement, but then include time horizons up to

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

seasonal assessments. The Application Guidelines then describe that entities have the ability to define personnel that fit within this scope, but later reference the planned operation of the BES. Additionally, the Applications Guidelines provide extensive lists of characteristics upon which personnel must be knowledgeable. ERCOT asserts that entities should determine what knowledge and information is necessary for its personnel. Otherwise, personnel may be trained on information that is not necessary for an entity's reliable operations, which may dilute or shift focus on what is necessary.

Response: Thank you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time "Reliable Operation" of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel. Time Horizons are not used to identify the personnel, but are used as a factor in determining the size of a sanction. If an entity violates a requirement and there is no time to mitigate the violation because the requirement takes place in real-time, then the sanction associated with the violation is higher than it would be for violation of a requirement that could be mitigated over a longer period of time. Time Horizons are sometimes used interchangeably with "operating" and "planning" horizons. In the standard, both operations and planning are discussed because these personnel will be operators and operations planners conducting the entity's Operational Planning Analysis, etc.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: Yes

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

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

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Selected Answer:

No

Answer Comment:

BPA finds TOP-009-1 RSAW's Note to Auditor for R1 is more specific than the standard or its Application Guidelines. For example, the R1 Note's "may include, but is not limited to..." lists for both Composite Protection Systems and Remedial Action Schemes is more detailed than the Application Guidelines.

BPA believes the ambiguity of the term "personnel responsible for Reliable Operation" needs to be remedied. During the Project 2007-06.2 webinar Q&A chat, BPA asked if "personnel responsible for Reliable Operation" applied to study engineers, substation operators and/or transmission planners. Scott Watts responded: "The SDT is maintaining flexibility for the registered entity to identify personnel who are responsible. The use of 'Operating' the elements in the term Reliable Operation is directed toward the real-time." This seems in conflict with the Application Guidelines section entitled Personnel Responsible for Reliable Operation: "Personnel include those responsible for Real-time operation of the BES and those who ensure the planned Realtime reliable operation of BES Facilities." BPA cannot ascertain if TOP-009 would apply to a limited group (system operator and operation support personnel) or a larger group of study engineers, AGC, and others.

Response: The drafting team thanks you for your comments and has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

The drafting team will provide NERC Compliance staff comments regarding the RSAW and input on potential revisions.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel. The Application Guidelines do not specify training, but the knowledge that is required. Training is one method an entity may use to comply with the requirements. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: Yes

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3
Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer: No

Answer Comment: Comments: While there are examples, they are not clear that documentation (i.e. training records, etc.) will suffice as evidence.

Response: The drafting team thanks you for your comments and has revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

The drafting team revised Measures M1, M2, and M3 to address the concern about evidence.

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

Selected Answer:

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Answer Comment:

In the Application Guidelines, Texas RE noticed the following opportunities for grammatical improvement:

- In the second paragraph, add the word “Composite” in front of “Protection System”.
- In the Composite Protection Systems and Remedial Action Schemes section, it seems the use of “protection equipment that provides operational reliability data inputs” is incorrect as the protection equipment does not provide, in general, any inputs. The results of protection system actions (including RASs and Composite Protection Systems) affect the “operational reliability data inputs”.
- In the Composite Protection Systems and Remedial Action Schemes section, first paragraph, Texas Re recommends changing the sentence starting with “Additional inputs” to clarify its meaning. The phrase "or using other methods" appears to be an alternative to "logged into operational tools" which is incomplete and unclear. Texas RE suggests replacing "logged into operational tools or using other methods" with "entered into operational tools using logging or other methods." This change also needs to take place in the second paragraph.
- In the Composite Protection Systems and Remedial Action Schemes section, first paragraph, the sentence starting with “The term”, Texas RE suggests replacing the word “complement” with “complete set”. The use “complement” makes the sentence say that a Composite Protection System is needed, along with Protection System(s) that function

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

collectively to protect an Element, to accomplish some purpose that isn't stated in the sentence.

- In the Ownership section, Texas RE agrees with the idea that the personnel must have knowledge regardless of ownership which could include Composite Protection Systems and RASs outside a Transmission Operator Area, Balancing Authority Area, or generation facility affecting reliability-based actions. It is not clear if the SDT considers Composite Protection Systems or RASs outside of an area based on the Application Guideline and the Standard itself. In fact, the discussion regarding "Requirement R3" states "It is essential for the Generator Operator to have knowledge of Composite Protection Systems and RASs in its generating Facilities, and the extent of their effect on the BES."

- In the section "Requirement R2" Texas RE suggests replacing "a RAS operation resulting" with "knowing that a RAS operation results". Knowledge is not the actual unit trip.

Response: The drafting team thanks you for your comments.

Adding the word "Composite" as suggested changes the meaning of the sentence, which is referring to language used in the TOP-003-3 Reliability Standard. However, this instance has been deleted due to revising the Application Guidelines.

The drafting team notes that "complement" is used within the definition of Composite Protection System; therefore, the drafting team will retain this wording for consistency.

The drafting team has deleted the "Ownership" section as it adds no additional value. The Composite Protection System is based upon the protection of an Element and not the ownership of the individual components.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

The use of the terms “Transmission Operator Area” and “Balancing Authority Area” provides additional description to the personnel applicable to the requirements. The terms do not describe the geographic location of any Composite Protection Systems or Remedial Action Schemes (RAS). The set of Composite Protection Systems or RASs for which knowledge is required, pertain to those included in the documented data specification of the Balancing Authority and Transmission Operator. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure). The Application Guidelines have been supplemented to explain that protective systems could be outside of the “area” an entity controls.

The BA and TOP must have a knowledge of Composite Protection Systems or RASs outside of their area when the BA or TOP are receiving notification of current Composite Protection Systems or RASs status or degradation (i.e., “failure”). The standard is predicated on when the Composite Protection Systems or RASs are used as inputs in its Operational Planning Analysis, Real-time monitoring (BA only), and Real-time Assessments.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Shawna Speer - Colorado Springs Utilities - 1 -

Selected Answer: Yes

Laurel Brandt - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Answer Comment:

First, the Application Guidelines in TOP-009-1 amplifies R3 to include “knowledge of Composite Protection Systems and RASs in its generating Facilities, and the extent of their effect on the

BES.” GOp personnel are naturally incentivized to keep units online. To that end, the operating personnel are trained to be aware of equipment limits and protection schemes that would trip a unit so that these events can be minimized to the extent possible. The value of any given unit as a resource on the BES is the purview of the Transmission Operator and Balancing Authority who instruct the GOp in actions to ensure reliability of the BES. The GOp rarely has the system-wide viewpoint that facilitates knowledge of the extent of the effect of a unit or its loss on the BES. To require otherwise becomes an onerous training demand and a distracting detail for generator operating personnel to consider in day-to-day operations.

Further, existing and proposed NERC Reliability Standards on relay loadability and Protection System coordination ensure the effects of Protection System operations on the BES are balanced against appropriate equipment protection. These standards require organizational knowledge and processes and avoid reliance on real-time human knowledge to ultimately preserve long-term reliability of the BES.

Second, TOP-009-1 requires, “knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes . . .” At first blush, this expectation seems to be consistent with the PRC-001-1.1, R1 requirement to “be familiar with the purpose and

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

limitations of Protection System schemes applied in its area.” However, the TOP-009-1 Application Guidelines for R3 raise the threshold of minimum essential operator knowledge and leave the language open to potentially onerous interpretation when it states without qualification that the requisite knowledge includes “whether the Composite Protection System or RAS functions as expected or failed to operate.”

Even though examples of “knowledge and their effects” are provided for R3, they do nothing to limit the possible interpretations of this amplification. In the past, Generator Operators have been familiar with what protection schemes are installed within their Facilities, what equipment is being protected, and what will be tripped when actuated. Guidelines for R1 and R2 qualify this expectation for the BA and TOp by saying, “Operational functionality is not intended to be handled to the specificity of Reliability Standards that address coordination of Protection System performance during faults. Rather, the requirement addresses the overall operational functionality needed and the effects when operating to maintain the reliability of the BES. An example of having knowledge would be a RAS operation resulting in a generating unit trip or ramp that affects the BES.” Guidelines for R3 need the same type of qualification.

Third, the Application Guideline states that “Having the ability to call upon a resource, such as a

protection and control person, would not be an example of having the requisite knowledge intended by the standard.” A determination by

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

generator operating personnel is imbedded in the requisite knowledge under R3 in the Application Guidelines. Until now, this determination has been performed only after a Protection System has operated, and only by a subject matter expert through appropriate analysis. Without additional qualifying language, TOP-009-1 can be interpreted to require an onerous degree of expertise from operating personnel.

Response: The drafting team thanks you for your comments and has revised Requirement R3 to address concerns about the Generator Operator.

The drafting team has made revisions to Requirement R3 Application Guidelines section to address this concern.

The clause “Additionally, this would include whether the Composite Protection System or RAS functions as expected or failed to operate.” Has been deleted because it is inconsistent with the PRC-004 Reliability Standard addressing Misoperation of Protection Systems.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU energy, LLC	SERC	1,3,5,6

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

Selected Answer: No

Answer Comment: These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

Comments: The guidelines provide examples of requisite knowledge stating requisite knowledge would include these examples but is not limited to these examples. As a result, the guidelines do not provide an objective standard as to what suffices for requisite knowledge of operational functionality. In response to Questions 1-3 above, LG&E/KU has suggested rewriting the requirements to more precisely define the level of knowledge required and provide a more objective performance standard.

Response: The drafting team thanks you for your comments and has revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.”

The standard is addressing the “what” and not the “how” an entity determines the knowledge.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Answer Comment: The SRC reiterates its general objections to the proposed reliability standard TOP-0091 and, further, is concerned that the Application Guidelines result in extending the scope of the proposed requirements in terms of affected personnel and the protection systems and RASs on

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

which personnel must be knowledgeable. More specifically, the requirements refer to “personnel responsible for the Reliable Operation....” as those personnel to be included within the scope of the requirement, but then include time horizons up to seasonal assessments. The Application Guidelines then describe that entities have the ability to define personnel that fit within this scope, which, when considered with the definition of “Reliable Operation,” would likely be limited to those personnel directly involved in current-day operations and next-day or three-day out planning. However, the Application Guidelines are not as clear as they could be regarding the time period targeted for the proposed requirements. The SRC recommends that the Application Guidelines be reviewed and revised to include examples of personnel that would not be included in the operation planning time horizon.

Additionally, the Applications Guidelines provide extensive lists of characteristics upon which personnel must be knowledgeable for Requirements R1 and R3; however, such is not provided for Requirement R2. The SRC notes that the entire list provided in Requirements R1 and R3 are inapplicable to Balancing Authorities, but suggests that some additional guidance be provided in the simplified format in which such guidance was summarized for Requirements R1 and R3.

Response: The drafting team thanks you for your comments.

Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

entity to identify these personnel. Time Horizons are not used to identify the personnel, but are used as a factor in determining the size of a sanction. If an entity violates a requirement and there is no time to mitigate the violation because the requirement takes place in real-time, then the sanction associated with the violation is higher than it would be for violation of a requirement that could be mitigated over a longer period of time. The standard addresses the personnel to be included, therefore, the drafting team declines list personnel that would not fall under the operations planning time frame.

The drafting team revised the Application Guidelines to focus on the specific areas that each entity should address concerning Composite Protection Systems and Remedial Action Schemes. Each entity will need to determine the operational functionality and effects specific to their operation for which personnel must have knowledge.

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

Selected Answer: Yes

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1
Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Selected Answer: No

Answer Comment: We have a concern that the broad language of the standard may require an individual or entity to be aware of details of protection scheme and RAS of neighboring and large regional utilities that are not our immediate neighbors. It would be difficult to make sure that the operators have the requisite knowledge as we need to depend on other utilities to provide us with their correct and complete information. The proposed standard is too vague as to how much knowledge is actually required.

Response: The drafting team thanks you for your comments. The use of the terms “Transmission Operator Area” and “Balancing Authority Area” provides additional description to the personnel applicable to the requirements. The terms do not describe the geographic location of any Composite Protection Systems or Remedial Action Schemes (RAS). The set of Composite Protection Systems or RASs for which knowledge is required, pertain to those included in the documented data specification of the Balancing Authority and Transmission Operator. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure). The Application Guidelines have been supplemented to explain that protective systems could be outside of the “area” an entity controls.

Ben Engelby - ACES Power Marketing - 6 -

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

Answer Comment: The Application Guidelines state that system operators must have requisite capabilities and knowledge of Composite Protection Systems and Remedial Action Schemes, but the requirements do not state that training is required to gain such knowledge. By allowing multiple options

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

for evidence, there will be inconsistent outcomes for registered entities that have senior operators but did not receive specific relay training. If a senior operator, who worked at the same control center for 30 years, shows an auditor an operations manual for evidence of relay knowledge, is that sufficient? An auditor's professional judgment could lead to different outcomes in that scenario. As stated before, "knowledge" is vague and difficult to measure for proving compliance.

Response: The drafting team thanks you for your comments. Requirements and Application Guidelines do not specify training, but the knowledge that is required. Training is one method an entity may use to comply with the requirements. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term "knowledge."

**Oshani Pathirane - Oshani Pathirane On Behalf of: Paul Malozewski, Hydro One Networks, Inc., 1, 3
Payam Farahbakhsh, Hydro One Networks, Inc., 1, 3**

Selected Answer: Yes

Answer Comment: However, as a further suggestion for improvement, Hydro One Networks Inc. believes that further clarity could be added to the definition of "Personnel Responsible for Reliable Operations". While it was clarified in a Q&A session held on August 26th, that although the definition would apply to "switching coordinators", the fact that this definition would not extend to those personnel who perform switching operations in the field and do so under the command of a grid controller, is not explicit.

5. Does TOP-009-1, Application Guidelines provide sufficient guidance, basis for approach, and examples to support performance of the requirements? If not, please provide specific detail that would improve the Application Guidelines.

Response: The drafting team thanks you for your comments. Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time “Reliable Operation” of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel. The Application Guidelines do not specify training, but the knowledge that is required. Training is one method an entity may use to comply with the requirements. The drafting team revised Measures M1, M2, and M3 to address the measurability concern about the term “knowledge.” Field personnel are not within the Real-time operations and execute operational instructions by the system operators (Real-time personnel).

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

John Fontenot - Bryan Texas Utilities - 1 -

Selected Answer: Yes

Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -

Selected Answer: Yes

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

Selected Answer:

Answer Comment:

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Thomas Foltz - AEP - 5 -

Selected Answer: No

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Answer Comment:

The 12 month implementation period would be insufficient for multi-regional entities, and especially so for larger multi-regional entities. Driven in part by the time needed to develop the necessary training courses for all the impacted operations groups, we believe an implementation period of 18 months is more reasonable.

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -

Selected Answer:

Yes

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

Group Name:

Dominion NCP

Group Member Name	Entity	Region	Segments
Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

Selected Answer:

Yes

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Molly Devine - IDACORP - Idaho Power Company - 1 -
Selected Answer: Yes
David Blackshear - Gridforce Energy Management, LLC - 5 -
Selected Answer: Yes
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -
Selected Answer: Yes
Leonard Kula - Independent Electricity System Operator - 2 -
Selected Answer: Yes
Terry Bilke - Midcontinent ISO, Inc. - 2 -
Selected Answer: No

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Answer Comment:

Not as drafted. The guidance appears to want TOPs and GOPs to have knowledge well beyond what is the norm today.

Response: The drafting team thanks you for your comment and contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations “TOP” Reliability Standards require the Transmission Operator to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the Transmission Operator must have the knowledge of operational functionality and effects.

These protective systems are essential to reliability and TOP-009-1 uses the terms “Composite Protection Systems” and “Remedial Action Schemes” to highlight the level of knowledge (i.e., expertise) is focused at a high level of the Composite Protection System and RAS and not the individual components of a “Protection System.”

The drafting team added RAS to address a reliability gap in the knowledge. The drafting team contends that the requirement is not expanding on the original, but clarifying the knowledge that is required by the GOP and TOP. The phrase “be familiar with the purpose and limitations of Protection System schemes” was ambiguous and difficult to measure.

Michelle Amarantos - APS - Arizona Public Service Co. - 1 -

Selected Answer:

Yes

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: Yes

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: Yes

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

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

Group Member Name	Entity	Region	Segments
Joe Depoorter	Madison Gas & Electric	MRO	3,4,5,6
Amy Casucelli	Xcel Energy	MRO	1,3,5,6
Chuck Lawrence	American Transmission Company	MRO	1
Chuck Wicklund	Otter Tail Power Company	MRO	1,3,5
Theresa Allard	Minnkota Power Cooperative, Inc	MRO	1,3,5,6
Dave Rudolph	Basin Electric Power Cooperative	MRO	1,3,5,6
Kayleigh Wilkerson	Lincoln Electric System	MRO	1,3,5,6
Jodi Jenson	Western Area Power Administration	MRO	1,6
Larry Heckert	Alliant Energy	MRO	4
Mahmood Safi	Omaha Public Utility District	MRO	1,3,5,6

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Shannon Weaver	Midwest ISO Inc.	MRO	2
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Brad Perrett	Minnesota Power	MRO	1,5
Scott Nickels	Rochester Public Utilities	MRO	4
Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

Selected Answer: Yes

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Selected Answer: Yes

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer: No

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Answer Comment:

The implementation date for GOPs should start when they receive inputs from the BA/TOP, ref. our comments above.

Response: The drafting team thanks you for your comments and contends that the BA, GOP, or TOP should obtain the necessary knowledge, when needed, prior to a new (or revised) Composite Protection System or RAS being placed into service.

Joshua Smith - Joshua Smith On Behalf of: Rod Kinard, Oncor Electric Delivery, 1

Selected Answer:

Yes

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer:

Yes

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

Group Name:

Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: No

Answer Comment: Based on our current understanding, Duke Energy disagrees with an implementation period of 12 months. With the level of detail that appears to be necessary to maintain compliance with TOP-009-1, an entity would have to create new training programs to meet the requirements of TOP-009-1. The creation and implementation of new training programs would most definitely take longer than the proposed 12 months. Again, as R3 is currently written, it appears that a Generator Operator will be required to ensure that its personnel are knowledgeable of the Composite Protection Schemes and Remedial Action Schemes necessary to operate its generating Facilities. To require personnel at larger entities with many generating Facilities to be knowledgeable of the Composite Protection Schemes and Remedial Action Schemes at a number of different generating Facilities is not feasible or likely in a 12 month timeframe.

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

Mark Kenny - Eversource Energy - 3 -

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Selected Answer: No

Answer Comment: Eversource recommends, as it did with the ballot for PRC-027-1, to extend the implementation plan from 12 Months to 24 Months.

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

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

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Selected Answer: Yes

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: No

Answer Comment: To adequately provide a justification for changing the proposed implementation period to a specifically longer period, a clearer understanding of the potential impact of the new standard is necessary. (Refer to Question 5.) The requirements can be interpreted as being very onerous, compared to PRC-001-1.1(ii).

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

The standard has been revised to improve clarity on what personnel must know.

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: No

Answer Comment: The standard language as proposed requires system control operators to have in depth knowledge of protection systems in their area. This is a significant increase in the training and knowledge required for system

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

operators, without necessarily increasing the reliability benefit. System control operators currently have access to this expertise without being individually required to obtain it and retain it through field work with the relay engineers.

Response: The drafting team thanks you for your comment and has revised TOP-009-1 to provide additional clarity on the intent of operational functionality and effects and has increased the Implementation Plan to 24 months to allow entities time to ensure personnel have the necessary knowledge.

Likes: 2 Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott Tallahassee Electric (City of Tallahassee, FL), 3, Williams John

Dislikes: 0

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: Yes

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Selected Answer: Yes

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: Yes

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: Yes

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

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

Selected Answer: No

Answer Comment: BPA believes 24 months is more appropriate, in alignment with previous PER-005 versions to allow time to create and deliver training.

Response: The drafting team thank you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: Yes

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1
Stan Rząd	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3
Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Selected Answer: Yes

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

Selected Answer: No

Answer Comment: Texas RE has determined that the standard includes reliability tasks that are consistent with PRC-001-1.1(ii). Therefore, the proposed implementation plan should not require a 12 month implementation period. This would allow a gap in reliability if personnel are unaware, at this point, of protection systems. **Texas RE requests that the SDT provide examples of reliability tasks related to this standard that it has determined registered entities are not currently performing under PRC-001-1.1(ii).**

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. An implementation period is provided because TOP-009-1 standard is clarifying the reliability objective of PRC-001-1.1(ii), Requirement R1 and that entities may want to supplement training programs.

Shawna Speer - Colorado Springs Utilities - 1 -

Selected Answer: Yes

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Laurel Brandt - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

Answer Comment: 12 months will not provide sufficient time to develop and deploy revised training, and ensure that all GOp operating personnel have been trained through established training cycles such as the nuclear Licensed Operator Requalification program.

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Selected Answer: Yes

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer: Yes

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

Selected Answer: Yes

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1
Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6
Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Selected Answer: No

Answer Comment: Based on how the standard is currently written we have some concerns about that the 12 month implementation period may be too short. We sincerely hope that the drafting team will take the opportunity to clarify the standard such as definitions, scope of equipment, etc.. In turn this will let us better analyze if the timeline is adequate.

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Ben Engelby - ACES Power Marketing - 6 -

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

6. Do you agree with implementation period (i.e., 12 months) of the proposed standard based on the considerations listed in the Implementation Plan? If not, please provide a justification for changing the proposed implementation period.

Answer Comment:

We would like the implementation plan to be revised to allow industry 12 months following the effective date to be in compliance with the proposed standard.

Response: The drafting team thanks you for your comment. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

The implementation period must occur previous to the effective date and not following because the effective date demarcates the retirement of the previous standard.

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

John Fontenot - Bryan Texas Utilities - 1 -	
Selected Answer:	Yes
Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -	
Selected Answer:	Yes
Thomas Foltz - AEP - 5 -	
Selected Answer:	No
Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -	
Selected Answer:	Yes
Answer Comment:	Unless it is NERC's intention to eliminate the PER category of Standards, creating the proposed requirements under the TOP category is inconsistent with NERC's petition to FERC in response to Order No. 693. Since each of the requirements proposed under TOP-009-1 are associated with the requisite knowledge needed by personnel, to ensure the safe and reliable operation of the Bulk Electric System, it is PSE's

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

position that these competencies belong in a new or existing PER Standard and not under the TOP category.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Likes: 2 Bonneville Power Administration, 1,3,5,6, Jessup Andrea
Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Alshare Hughes - Luminant - Luminant Generation Company LLC - 5,6,7 - TRE

Selected Answer: No

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

Group Name: Dominion NCP

Group Member Name	Entity	Region	Segments
Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

Selected Answer: No

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: No

David Blackshear - Gridforce Energy Management, LLC - 5 -

Selected Answer: No

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: No

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Terry Bilke - Midcontinent ISO, Inc. - 2 -

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: Yes

Answer Comment: As noted, some Balancing Authorities cannot have knowledge of the transmission system.

Response: The drafting team thanks you for your comment and contends that Balancing Authorities need to understand the operational functionality and effects of Composite Protection Systems and Remedial Action Schemes on their area. The Balancing Authority knowledge is focused on those Composite Protection Systems and Remedial Action Schemes that are included in its documented data specification for which it requires notification of current status or degradation (i.e., failure) necessary for performing its Real-time monitoring.

Michelle Amarantos - APS - Arizona Public Service Co. - 1 -

Selected Answer: No

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: No

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: No

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

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

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

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

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: No

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Selected Answer: No

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer: No

Joshua Smith - Joshua Smith On Behalf of: Rod Kinard, Oncor Electric Delivery, 1

Selected Answer: No

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: No

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: No

Mark Kenny - Eversource Energy - 3 -

Selected Answer: No

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

Group Name: SPP Standards Review Group

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: No

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: No

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: No

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection
Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: No

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: No

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

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

Selected Answer: No

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: No

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Don Cuevas	Beaches Energy Services	FRCC	1
Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3
Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer: Yes

Answer Comment: It has been questioned whether a training standard is appropriate as a TOP standard vs a PER standard.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

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

Selected Answer: No

Shawna Speer - Colorado Springs Utilities - 1 -

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: Yes

Answer Comment: Conflict between Standards, PRC-001 and TOP-009 Requirements related to training are addressed in PER-005-2.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Laurel Brandt - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: No

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer: No

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

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Selected Answer: No

Ben Engelby - ACES Power Marketing - 6 -

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

7. Are you aware of any conflicts between the proposed standard and any regulatory function, rule, order, tariff, rate schedule, legislative requirement, or agreement? If so, please identify the conflict here.

Answer Comment:

We are confused why these types of questions are included in the comment form. These questions should have been answered during the SAR phase.

Response: The drafting team thanks you for your comments. These questions need to be posed to ensure the developmental work of the team has not created any unintended differences continent-wide.

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.

<p>John Fontenot - Bryan Texas Utilities - 1 -</p> <p>Selected Answer: No</p>
<p>Yvonne McMackin - Public Utility District No. 2 of Grant County, Washington - 4 -</p> <p>Selected Answer: Yes</p>
<p>Thomas Foltz - AEP - 5 -</p> <p>Selected Answer: No</p>
<p>Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -</p> <p>Selected Answer: No</p>
<p>Alshare Hughes - Luminant - Luminant Generation Company LLC - 5,6,7 - TRE</p> <p>Selected Answer: No</p>
<p>Louis Slade - Dominion - Dominion Resources, Inc. - 6 -</p>

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.

Group Name: Dominion NCP

Group Member Name	Entity	Region	Segments
Mike Garton	NERC Compliance Policy	NPCC	5,6
Randi Heise	NERC Compliance Policy	SERC	1,3,5,6
Connie Lowe	NERC Compliance Policy	SERC	1,3,5,6
Louis Slade	NERC Compliance Policy	RFC	5,6

Selected Answer: No

Molly Devine - IDACORP - Idaho Power Company - 1 -

Selected Answer: No

David Blackshear - Gridforce Energy Management, LLC - 5 -

Selected Answer: No

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6 -

Selected Answer: No

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.

Leonard Kula - Independent Electricity System Operator - 2 -

Selected Answer: No

Terry Bilke - Midcontinent ISO, Inc. - 2 -

Selected Answer: No

Michelle Amaranos - APS - Arizona Public Service Co. - 1 -

Selected Answer: No

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6 -

Selected Answer: No

Mike Smith - Manitoba Hydro - 1 -

Selected Answer: No

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

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.

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

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

Selected Answer: No

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.

Venona Greaff - Oxy - Occidental Chemical - 7 -

Group Name: Oxy

Group Member Name	Entity	Region	Segments
Venona Greaff	Occidental Chemical Corporation	SERC	7
Michelle D'Antuono	Ingleside Cogeneration LP.	TRE	5

Selected Answer: No

Donald Lock - Talen Generation, LLC - 5 -

Selected Answer: No

Joshua Smith - Joshua Smith On Behalf of: Rod Kinard, Oncor Electric Delivery, 1

Selected Answer: No

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Selected Answer: No

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.

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Selected Answer: No

Mark Kenny - Eversource Energy - 3 -

Selected Answer: No

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

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
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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.

Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Selected Answer: No

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1 -

Selected Answer: No

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 5 -

Selected Answer: No

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

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.

Selected Answer: No

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1

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.

Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5
Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Selected Answer:

No

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.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Selected Answer: No

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1 -

Selected Answer: No

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Selected Answer: No

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 3 -

Selected Answer: No

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.

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

Selected Answer: No

Jennifer Losacco - NextEra Energy - 1 - FRCC

Selected Answer: No

Carol Chinn - Florida Municipal Power Agency - 4 -

Group Name: FMPA

Group Member Name	Entity	Region	Segments
Tim Beyrle	City of New Smyrna Beach	FRCC	4
Jim Howard	Lakeland Electric	FRCC	3
Greg Woessner	Kissimmee Utility Authority	FRCC	3
Lynne Mila	City of Clewiston	FRCC	3
Javier Cisneros	Fort Pierce Utility Authority	FRCC	4
Randy Hahn	Ocala Utility Services	FRCC	3
Don Cuevas	Beaches Energy Services	FRCC	1
Stan Rzad	Keys Energy Services	FRCC	4
Matt Culverhouse	City of Bartow	FRCC	3

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.

Tom Reedy	Florida Municipal Power Pool	FRCC	6
Steven Lancaster	Beaches Energy Services	FRCC	3
Mike Blough	Kissimmee Utility Authority	FRCC	5
Mark Brown	City of Winter Park	FRCC	3
Mace Hunter	Lakeland Electric	FRCC	3

Selected Answer: No

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

Selected Answer: No

Shawna Speer - Colorado Springs Utilities - 1 -

Selected Answer: No

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Laurel Brandt - Tennessee Valley Authority - 1,3,5,6 - SERC

Selected Answer: No

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.

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU Energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6
Dan Wilson	LG&E and KU Energy, LLC	SERC	5

Selected Answer: Yes

Answer Comment: These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

Comments: According to the Application Guidelines, the TOP and BA must obtain and impart to its operating personnel knowledge of Composite Protection Schemes and Remedial Action Schemes associated with systems owned by others. Depending on the level of knowledge required of the operational functionality and effects of third party-owned systems, this could potentially require revisions to operating agreements, tariffs, and other relevant agreements

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.

Response: The drafting team thanks you for your comment.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Ben Li - Independent Electricity System Operator - 2 - NPCC

Group Name: ISO/RTO Council Standards Review Committee

Group Member Name	Entity	Region	Segments
Charles Yeung	SPP	SPP	2
Greg Campoli	NYISO	NPCC	2
Ali Miremadi	CAISO	WECC	2
Ben Li	IESO	NPCC	2
Kathleen Goodman	ISO-NE	NPCC	2
Mark Holman	PJM	RFC	2
Terry Bilke	MISO	MRO	2

Selected Answer: No

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

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.

Selected Answer: No

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1
Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6
Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Selected Answer: Yes

Answer Comment: We are saying yes because it is hard to judge until the standard clarifies expectations. We sincerely hope that the drafting team will take the opportunity to clarify the standard such as definitions, scope of equipment, etc.. In turn this will let us better analyze if the timeline is adequate.

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.

Response: The drafting team thanks you for your comment.

Ben Engelby - ACES Power Marketing - 6 -

Group Name: ACES Standards Collaborators - PRC-027 Project

Group Member Name	Entity	Region	Segments
Mark Ringhausen	Old Dominion Electric Cooperative	RFC	3,4
Mike Brytowski	Great River Energy	MRO	1,3,5,6
Ellen Watkins	Sunflower Electric Power Corporation	SPP	1
Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	RFC	1
Ginger Mercier	Prairie Power, Inc.	SERC	1,3
Bill Hutchison	Southern Illinois Power Cooperative	SERC	1
John Shaver	Arizona Electric Power Cooperative, Inc. Southwest Transmission Cooperative, Inc.	WECC	1,4,5
Chip Koloini	Golden Spread Electric Cooperative, Inc.	SPP	5

Selected Answer: No

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.

Answer Comment:

We are confused why these types of questions are included in the comment form. These questions should have been answered during the SAR phase.

Response: The drafting team thanks you for your comments. These questions need to be posed to ensure the developmental work of the team has not created any unintended differences continent-wide.

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

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

Answer Comment:

We would like to see more specificity in R3 on who is “personnel responsible for Reliable Operation of its generating Facilities”, though we understand that this may be difficult for the SDT to define for a national standard with many different types of organizations.

Response: The drafting team thanks you for your comment and has revised Requirement R3 to address concerns about the Generator Operator.

Thomas Foltz - AEP - 5 -

Answer Comment:

Though we agree with the overall intent of the proposed TOP-009-1 standard, we have chosen to vote negative, primarily driven by the need to specify the GO as an applicable entity, as well as our concern that the 12 month implementation period is insufficient.

Response: The drafting team thanks you for comment. The knowledge required is germane to personnel that are responsible for Reliable Operations or Real-time control of a generator Facility and not the personnel of asset owners. The Implementation Plan time period of 12 months has been extended to 24 months to address implementation concerns.

Theresa Rakowsky - Puget Sound Energy, Inc. - 1 -

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Answer Comment:

Although we support the purpose of TOP-009-1 standard, PSE believes it would be more appropriate to include the proposed requirements into a new or existing PER standard.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Molly Devine - IDACORP - Idaho Power Company - 1 -

Answer Comment:

Although I think this covers the requirements from PRC-001 I think this new standard is vague and will be hard to measure. I don't think being compliant would be that hard because training, operating guides, manuals and operational tools apply but I'm not sure what is accomplished by the standard.

Training of various System Operators should be addressed in PER-005-2, rather than including training requirements in multiple PRC standards.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Joe - NiSource - Northern Indiana Public Service Co. - 6 -

Answer Comment: The informational webinars were very good.

Response: The drafting team thanks you for your comment.

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

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

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

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Terry Harbour	MidAmerican Energy Company	MRO	1,3,5,6
Tom Breene	Wisconsin Public Service Corporation	MRO	3,4,5,6
Tony Eddleman	Nebraska Public Power District	MRO	1,3,5

Answer Comment:

Section C. Compliance, 1.2 Evidence Retention (page 5): The last sentence states in part: "... shall keep data or evidence for the current calendar year and one previous calendar year." This implies that something is happening on an annual basis. The NSRF looks at the knowledge like a Task in PER-005-1. A one and done issue if training is the evidence used by the entity. PER-005-1, R2 states identified tasks are verified at least one time. Evidence retention is only held for three years or since the last compliance audit. The NSRF recommends that evidence retention mirrors PER-005-1. This will remove the implication that something has to happen every year.

Response: The drafting team thanks you for your comment and has revised the Evidence Retention to three calendar years consistent with NERC evidence retention guidance (and PER-005). The periodicity of ensuring knowledge is left to the discretion of the entity.

Meghan Ferguson - Meghan Ferguson On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1

Answer Comment:

ITC Holdings agrees with the comments submitted by NSRF. A copy of NSRF's comments are provided below.

Section C. Compliance, 1.2 Evidence Retention (page 5): The last

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

sentence states in part: "... shall keep data or evidence for the current calendar year and one previous calendar year." This implies that something is happening on an annual basis. The NSRF looks at the knowledge like a Task in PER-005-1. A one and done issue if training is the evidence used by the entity. PER-005-1, R2 states identified tasks are verified at least one time. Evidence retention is only held for three years or since the last compliance audit. The NSRF recommends that evidence retention mirrors PER-005-1. This will remove the implication that something has to happen every year.

Response: The drafting team thanks you for your comment and has revised the Evidence Retention to three calendar years consistent with NERC evidence retention guidance (and PER-005). The periodicity of ensuring knowledge is left to the discretion of the entity.

The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Erika Doot - U.S. Bureau of Reclamation - 5 -

Answer Comment:

Reclamation believes that the drafting team should propose these requirements for retirement. One purpose of the PRC-001 revision project is to ensure that requirements are categorized in the proper NERC standards family. Training materials are cited in M1, M2, and M3 as examples of how to demonstrate that operators have knowledge of composite protection systems. Therefore, these requirements should be

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

incorporated into a Personnel Performance, Qualifications, and Training (PER) standard. Reclamation believes that the reliability objective of this proposed standard is covered by PER-005-1 because composite protection systems will be identified as a company-specific Bulk Electric System (BES) reliability-related task and incorporated into Balancing Authority, Transmission Operator, and Generator Operator training programs.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

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

Group Name: Duke Energy

Group Member Name	Entity	Region	Segments
Doug Hils	Duke Energy	RFC	1
Lee Schuster	Duke Energy	FRCC	3
Dale Goodwine	Duke Energy	SERC	5
Greg Cecil	Duke Energy	RFC	6

Answer Comment: Duke Energy supports the direction this project is going, but cannot vote "Affirmative" for this standard in its current form without further

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

explanation and additional clarity in the requirements and Application Guideline.

Response: Thank you for your comment.

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

Group Name: SPP Standards Review Group

Group Member Name	Entity	Region	Segments
Shannon Mickens	Southwest Power Pool Inc.	SPP	2
Jason Smith	Southwest Power Pool Inc	SPP	2
Jonathan Hayes	Southwest Power Pool Inc	SPP	2
Robert Gray	Board of Public Utilities of Kansas City, Kansas	SPP	3
Michael Jacobs	Camstex	NA - Not Applicable	NA - Not Applicable
stephanie Johnson	Westar Energy, Inc	SPP	1,3,5,6
Mike Kidwell	Empire District Electric Company	SPP	1,3,5
James Nail	City of Independence, Missouri	SPP	3,5

Answer Comment:

We would suggest to the drafting team to re-evaluate TOP-009 for redundancy issues. For example, we feel that Requirement R1 and R3

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

can be addressed by PER-005-2 Standard.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Answer Comment:

ERCOT is concerned that the proposed requirements do not provide a timeline for incorporating newly added or revised protection systems or RASs into training programs. Most entities provide knowledge transfer to personnel through scheduled training engagements such as Cycle training or other technical training programs. As protection systems and RASs are revised or added, there will necessarily be a lag between the time the data on these are received by the BA, GOP, or TOP and when training or other communications can be prepared, distributed, and reviewed. ERCOT recommends that the Standards Drafting Team consider this and include guidance in the Application Guidelines.

Response: The drafting team thanks you for your comment and contends that the BA, GOP, or TOP should have the necessary knowledge, when needed, prior to a new (or revised) Composite Protection System or RAS being placed into service.

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Lee Pedowicz - Northeast Power Coordinating Council - 10 - NPCC

Group Name: NPCC--Project 2007-06.2 Phase 2 of System Protection Coordination - TOP-009-1

Group Member Name	Entity	Region	Segments
Alan Adamson	New York State Reliability Council, LLC	NPCC	10
David Burke	Orange and Rockland Utilities Inc.	NPCC	3
Greg Campoli	New York Independent System Operator	NPCC	2
Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
Kelly Dash	Consolidated Edison Co. of New York, Inc.	NPCC	1
Gerry Dunbar	Northeast Power Coordinating Council	NPCC	10
Mark Kenny	Northeast Utilities	NPCC	1
Helen Lainis	Independent Electricity System Operator	NPCC	2
Rob Vance	New Brunswick Power Corporation	NPCC	9
Paul Malozewski	Hydro One Networks Inc.	NPCC	1
Bruce Metruck	New York Power Authority	NPCC	6
Lee Pedowicz	Northeast Power Coordinating Council	NPCC	10
Si Truc Phan	Hydro-Quebec TransEnergie	NPCC	1
David Ramkalawan	Ontario Power Generation, Inc.	NPCC	5

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Brian Robinson	Utility Services	NPCC	8
Wayne Sipperly	New York Power Authority	NPCC	5
Edward Bedder	Orange and Rockland Utilities Inc.	NPCC	1
Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC	3
Michael Jones	National Grid	NPCC	1
Brian Shanahan	National Grid	NPCC	1
Michael Forte	Consolidated Edison Co. of New York, Inc.	NPCC	1
Glen Smith	Entergy Services, Inc.	NPCC	5
Brian O'Boyle	Consolidated Edison Co. of New York, Inc.	NPCC	8
RuiDa Shu	Northeast Power Coordinating Council	NPCC	10
Connie Lowe	Dominion Resources Services, Inc.	NPCC	5
Guy Zito	Northeast Power Coordinating Council	NPCC	10
Silvia Parada Mitchell	NextEra Energy, LLC	NPCC	5
Robert Pellegrini	The United Illuminating Company	NPCC	1

Answer Comment:

PRC-012-2 will ensure that Remedial Action Schemes (RAS) do not introduce unintentional or unacceptable reliability risks to the Bulk Electric System (BES), and PRC-027-1 is intended to maintain the coordination of Protection Systems installed to detect and isolate Faults on Bulk Electric System such that those Protection Systems operate in the intended sequence during Faults. Neither of these explicitly requires the owner of a Composite Protection System or Remedial Action Scheme to provide the information necessary for entities (if not the owner) in

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

TOP-009-1 to meet the requirement applicable to them. There needs to be an explicit requirement for the owner of a Composite Protection System or Remedial Action Scheme to provide information sufficient to the operating personnel of an entity (BA, GOP, TOP) whose Bulk Electric System (BES) Facilities would be impacted by that Composite Protection System or Remedial Action Scheme to ensure the entity can comply with the applicable requirements of this standard.

Is the intention to maintain the awareness of the protection systems in abnormal situations too? Does *'knowledge of operational functionality and effects of Composite Protection Systems and Remedial Action Schemes'* include understanding how the BES or a plant would perform during an outage or a failure of a CPS or a RAS? From the operational perspective, awareness of the BES or a plant response in abnormal conditions is essential. The standard should clarify the term *'operational functionality'* so it includes outages or failures of the CPS or RAS.

In the VSL Table replace "Each Transmission Operator" with "The Transmission Operator".

From the Personnel Responsible for Reliable Operations section in the Application Guidelines on page 10 of TOP-009-1, does the "personnel responsible for Reliable Operation" of the BES include the personnel analyzing and authorizing maintenance outages on the Composite Protections Systems and RAS? This needs clarification.

Response: The drafting team thanks you for your comments.

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

The drafting team disagrees that a requirement is needed to ensure that the BA, GOP, or TOP are able to obtain information regarding Composite Protection Systems or Remedial Action Schemes.

The drafting team contends that the TOP-009-1 focuses the reliability objective on the specific set of protective systems as follows. NERC transmission operations "TOP" Reliability Standards require the entity to maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The specification requires provisions for notification of current Protection System and Special Protection System (i.e., Remedial Action Schemes) status or degradation (i.e., failure) that impacts Transmission Operator Area reliability. These Protection Systems and RASs are associated with BES Elements. These Elements will have Composite Protection Systems or RASs for which the entity must have the knowledge of operational functionality and effects.

These Composite Protection Systems and RASs would be included if they are in an abnormal or temporary state (status/degradation). This is true for Generator Operator personnel responsible for Real-time control of a Facility. An outage or failure of a Composite Protection Systems and RASs includes understanding the operational functionality of how the Composite Protection Systems and RASs are applied, and how each affects Real-time operation of the BES.

The drafting team corrected the "Each" and "The" inconsistency in the VSL.

The drafting team asserts that if the personnel analyzing and authorizing maintenance outages are responsible for Reliable Operations related to the set of Composite Protection Systems and RAS associated with the Operations Planning Analysis, Real-time monitoring, or Real-time Assessments, then yes. Personnel is intended to include those responsible for Real-time operation of the BES and those who ensure the planned Real-time "Reliable Operation" of BES Facilities. The drafting team is maintaining flexibility for the registered entity to identify these personnel.

Elizabeth Axson - Elizabeth Axson On Behalf of: christina bigelow, Electric Reliability Council of Texas, Inc., 2

Answer Comment:

Comments: ERCOT is concerned that the proposed requirements do not provide a timeline for incorporating newly added or revised protection

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

systems or RASs into training programs. Most entities provide knowledge transfer to personnel through scheduled training engagements such as Cycle training or other technical training programs. As protection systems and RASs are revised or added, there will necessarily be a lag between the time the data on these are received by the BA, GOP, or TOP and when training or other communications can be prepared, distributed, and reviewed. ERCOT recommends that the Standards Drafting Team consider this and include guidance in the Application Guidelines.

Response: The drafting team thanks you for your comments and contends that the BA, GOP, or TOP should have the necessary knowledge, when needed, prior to a new (or revised) Composite Protection System or RAS being placed into service.

Dixie Wells - Lower Colorado River Authority - 5 -

Group Name: LCRA Compliance

Group Member Name	Entity	Region	Segments
Michael Shaw	LCRA	TRE	6
Teresa Cantwell	LCRA	TRE	1
Dixie Wells	LCRA	TRE	5

Answer Comment: LCRA believes that the requirements addressed in TOP-009-1, being directly related to knowledge which would presumably be gained from its training programs, should be placed within the PER set of standards

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

that already address areas of competencies and training programs required for operating personnel.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

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

Answer Comment:

In the Evidence Retention Section the statement “since the last audit” is used. Texas RE suggests changing the language to “since the last audit of these requirements”.

Response: Thank you for your suggestion. Change made.

Brent Ingebrigtsen - LG&E and KU Energy, LLC - 1,3,5,6 - SERC

Group Name: LG&E and KU Energy, LLC

Group Member Name	Entity	Region	Segments
Brent Ingebrigtsen	LG&E and KU energy, LLC	SERC	1,3,5,6
justin Bencomo	LG&E and KU Energy, LLC	SERC	1,3,5,6
Chjarlie Freibert	LG&E and KU Energy, LLC	SERC	3
Linn Oelker	LG&E and KU Energy, LLC	SERC	6

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Dan Wilson	LG&E and KU Energy, LLC	SERC	5
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Answer Comment:

These comments are submitted on behalf LG&E and KU Energy, LLC (LG&E/KU). LG&E/KU is registered in the SERC Region for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, RP, TO, TOP, TP, and TSP

The SDT has not provided a direct link between the “knowledge” required in TOP-009 and the corresponding requirements that the SDT has in many webinars stated should be linked to from TOP-003-3 (pending FERC approval). The mapping document also confirm this. LG&E/KU would like to see a direct link between TOP-009 and TOP-003-3 made in the standard and RSAW. With the current version, there is concern this connection may be disregarded by auditors since it is not explicitly defined and is thus left to interpretation.

Response: The drafting team thanks you for your comment and has revised the Application Guidelines to address this concern.

The drafting team will provide NERC Compliance staff comments regarding the RSAW and input on potential revisions.

Likes: 1 Grand River Dam Authority, 3, Wells Jeff

Dislikes: 0

Tony Eddleman - Nebraska Public Power District - 3 -

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Answer Comment:

The training program required by PER-005-2 should capture these areas as areas for which training (knowledge) is required and the associated training program, in order to be compliant, would have to cover these elements. To call out one particular area of knowledge and apply separate standards to apply to it is not reasonable or effective.

I support the MRO NSRF comments.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

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

Answer Comment:

CenterPoint Energy appreciates the effort and focus put forth by the TOP-009-1 SDT on the challenging task of addressing the FERC directives, System Protection and Controls Task Force (SPCTF) recommendations, and industry comments thus far into the proposed initial posting of the 2007-06.2 Phase II project. CenterPoint Energy supports the SDT's approach in the applicable functional entities meeting their perspective reliability objectives and the overall retirement of Reliability Standard PRC-001-1.1.

Response: The drafting team thanks you for your comment.

9. If you have any other comments on this Standard that you haven't already mentioned above, please provide them here:

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC

Group Name: Seattle City Light Ballot Body

Group Member Name	Entity	Region	Segments
Pawel Krupa	Seattle City Light	WECC	1
Dana Wheelock	Seattle City Light	WECC	3
Hao Li	Seattle City Light	WECC	4
Bud (Charles) Freeman	Seattle City Light	WECC	6
Mike haynes	Seattle City Light	WECC	5
Michael Watkins	Seattle City Light	WECC	1,3,4
Faz Kasraie	Seattle City Light	WECC	5
John Clark	Seattle City Light	WECC	6

Answer Comment:

We believe that this subject should be incorporated into a current PER standard or a new PER standard, rather than into a new and separate TOP standard. The heart of the requirement (what we can do) is training and that is a PER issue. Additionally, a TOP standard that has GOP requirements seems to be a mismatch.

Response: The drafting team thanks you for your comment. The PER standards are about personnel training and the proposed TOP-009-1 requires a specific knowledge that is not addressed by fundamental protection and control training. Training is one method of demonstrating that knowledge, as well as, other methods listed in the TOP-009-1 standard. The Measures were updated to clarify that training can be one of the methods used for evidence.

End of report