

**Individual or group. (71 Responses)**

**Name (40 Responses)**

**Organization (40 Responses)**

**Group Name (31 Responses)**

**Lead Contact (31 Responses)**

**IF YOU WISH TO EXPRESS SUPPORT FOR ANOTHER ENTITY'S COMMENTS WITHOUT ENTERING ANY ADDITIONAL COMMENTS, YOU MAY DO SO HERE. (10 Responses)**

**Comments (71 Responses)**

**Question 1 (54 Responses)**

**Question 1 Comments (61 Responses)**

**Question 2 (0 Responses)**

**Question 2 Comments (61 Responses)**

**Question 3 (52 Responses)**

**Question 3 Comments (61 Responses)**

**Question 4 (59 Responses)**

**Question 4 Comments (61 Responses)**

Group
Lower Colorado River Authority Transmission Services Corporation
Steve Rainwater
Yes
In the rationale for R4 it is stated that no new tasks are required for support personnel; rather it says that tasks already created for System Operators can be "cherry-picked" to provide tasks for support personnel. This does not, at face value at least, make much sense. Support personnel do not perform System Operator tasks and vice-versa. R4 is highly confusing. The applications, processes, and thus the knowledge, required to perform Network Analysis or to develop SOL's or IROL's can be quite different from the knowledge required for System Operator tasks. For example, System Operators respond and mitigate SOL's, but have little or no input into their creation. Conversely, creating an SOL is far different from responding to one. Is it possible that the intent of R4 is to provide Support Personnel with insight into the tasks System Operators perform? If so, the wording of R4 could be greatly simplified leading to better understanding. From R4: "The entity can use the list created from requirement R1 and select the reliability-related tasks that support personnel conduct and therefore should be training on". Again, Support Personnel do not perform those tasks. Does not make any sense to train and evaluate them on tasks they simply do not perform. Is an entity exempt from R4 if it attests that its support personnel do not perform System Operator tasks? In addition, the definition of "Support Personnel" is far too vague: "Individuals who carry out outage coordination and assessments, or determine SOLs, IROLs..." What exactly does "determine SOL's mean? There can be quite a few people involved in that process. Does everyone that inputs into that process fall under the requirement? Engineers determine SOL's

for the most part at this organization, but display and database specialists contribute as well. Are they to be included as well? For outage coordination: how far upstream must one go? Coordinating transmission outages at the LCRA involves more than just one person. Various LCRA groups (maintenance, construction, project management, etc.) provide input into that process along with our wholesale power customers. Where is the demarcation point?
see previous comment
Yes
No
R4, as previously stated, would not accomplish much since it is, in a de facto fashion, saying that Support Personnel positions are not different from System Operator positions. The explanation for R4 in the grey box above it essentially says that support positions are comprised of system operator tasks. This simply is not true. If the intent is to ensure Support Personnel are trained to perform tasks, then PER-005-2 falls short since it does not include any application of SAT to those positions. It should suffice that if an individual has earned a BSEE, and possibly a professional engineering license as well, that they are qualified to conduct studies, determine SOL/IROL, etc. as the schooling they received did just that. R4 does make it somewhat clear as to what is expected, but the text box above it makes an error in that it attempts to say that no new tasks are required. I do not see how that could possibly be the case.
Individual
Thomas Foltz
American Electric Power
Yes
“Control Center” is not capitalized within the SAR.
4.1.5.1 – The term “dispatch center” should be replaced by the capitalized term “Control Center”. It appears that there is a periodicity lacking in R5 in that it could be interpreted as requiring contact only once. We do not believe that is the intent of the drafting team.
No
AEP does not recommend using terms defined only within a standard and not including them in the NERC Glossary of Terms. This is especially troubling given that the “local term” references “global terms” which *are* specified in the NERC glossary. The definition provided for Support Personnel is a concern as its scope is not well defined. Instead, we recommend the proposed definition be changed to the following : “...individuals who have direct contact with the System Personnel and who carry out outage coordination and outage assessments, or determine SOLs, IROLs or operating nomograms...” . This concern is also extended to any proposed requirements which are directed at Support Personnel.
No
Improvements are needed so that the applicability of the requirements is not greater than

what is actually intended (see response to Question #3). The terms System Personnel and Support Personnel appear similar enough to potentially cause confusion when interpreting the standard. This is illustrated by the awkwardness in how R4 points back to R1, appearing to be redundant. AEP's negative vote on this standard is driven by its concerns regarding the proposed definition for Support Personnel, and for the lack of clear periodicity of R5.

Group

Arizona Public Service Company

Janet Smith

No

See comments for Question 4

Yes

No

APS has no Generator Operators that “develop specific dispatch instructions” so the new GOP requirement will not have an impact at APS in our current configuration. APS does have Support Personnel who “carry out outage coordination and assessments” and also individuals who “determine SOLs, IROLs for operating nomograms for Real-time operations”. However, industry feedback that these personnel do not make real-time decisions on BES operations is reasonable, as these decisions are the responsibility of System Operators. The ad hoc committee decision that EMS support personnel do not perform tasks that jeopardize the reliability of the BES makes sense in light of the evidence. The proposed timeline for implementation of the simulation technology requirements is six months. APS would meet this target , but this timeline is unattainable for many small utilities who have few resources to develop this solution. Eighteen months would be a reasonable target. The standard-only definition regarding the role of Transmission Owners in conducting operations on the BES does not apply to APS in its current configuration. Replacing the current “32-hours per calendar year” Emergency Operations training requirement with an approach that enables each utility to employ a Systematic Approach to Training that identifies training requirements is appropriate.

Group

Northeast Power Coordinating Council

Guy Zito

Yes

The SAR should not be posted with the Standard. The intent of posting a SAR for comment is to seek industry's input on the need and scope of a proposed standard's development or revision. Posting the Standard for comments and ballot means that the SAR is “water under the bridge”, and that industry's input on SAR doesn't mean anything. In the proposed Purpose

of the Standard the words “performing or” should be deleted. A more results oriented Purpose statement would read as follows: To ensure that personnel supporting Real-time reliability tasks are trained and competent.

What is the basis for assigning a Long-Term Planning Time Horizon to the five requirements of a Standard that addresses training for operating personnel and support personnel? As suggested by a number of Requirements in the Standard, training is delivered at least annually, if not more frequently, and the training program needs to be reviewed and revised once a year. This is much shorter than the Long-term Planning time frame. The intent of the Time Horizon is to indicate the general time frame to correct a non-compliance with a requirement. We do not see how a non-compliance of any of the requirements should wait for more than a year to mitigate, in view of the time frame stipulated in the Requirements. We suggest to change the Time Horizons to Operations Planning. Control Center should be capitalized throughout the Standard. Regarding the Standard’s Introduction-- In 4.1.4.1 what is the intention of the use of the word “operate”? Does operate mean giving or executing instructions? 4.1.4.1 reads “Personnel in a transmission control center who operate a portion of the Bulk Electric System at the direction of its Transmission Operator.” Propose changing the second occurrence of the word “a” to “any”. 4.1.5.1 is ambiguous. What is a centrally located dispatch center? It is not defined. Suggest repeating 4.1.5.1.1 section for Transmission Owner 4.1.4.1. Make a “4.1.4.2 Personnel in a centrally located dispatch center who relay instructions without making any modifications, are excluded”. 4.1.5.1.1--“...who relay dispatch instructions,...” is not clear. What is the “relay” intended to convey? Consider changing “relay” to “communicate” if that better explains the intent. Regarding Requirement R1-- Regarding R1 part 1.4, specify that the delay for completing the annual program evaluation should be done once the calendar year is over. For example, to evaluate the 2013 training program, wait until the end of the year on December 31, 2013, and then, do the annual program evaluation. R1 part 1.1--What in R1 is “BES company specific”? Is BES a modifier of the word “company” or a modifier of the word “tasks” in this sentence? The Requirement is ambiguous. R1 part 1.1.1--This requirement is inconsistent with the prior one as to the use of the word “tasks”. It should repeat “Real-time reliability-related tasks” in the task update obligation to be consistent with R1.1. R1 part 1.3--Is this one time training? If not, where is the refreshing interval specified? Can the person perform their job before they receive this training? Regarding Requirement R2-- R2--Does the verification of System personnel capabilities apply to each task in the SAT? Is the proposed standard designing and specifying the personnel testing here? Should it be? Regarding Requirement R3-- R3-- “Emergency” can be removed. R3 part 3.1--Focusing on the words “gains operational authority”, no RC, BA, TOP or TO should gain operational authority until after all its staff are trained. Regarding Requirement R4-- Requirement R4 is unclear regarding Real-time reliability-related tasks. The proposed definition of Support Personnel is: Individuals who carry out outage coordination and assessments, or determine SOLs, IROLs or operating nomograms for Real-time operations. This definition clearly indicates that these personnel do not perform any Real-time tasks, although their tasks produce results that are applied in Real-time operations. R4 stipulates that: Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for

Support Personnel specific to those Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1 that relate to the Support Personnel’s job function. Should Support Personnel be trained for Real-time tasks? R4 references Requirement R1 parts 1.1 and 1.1.1 which specifically refer to “Real-time reliability-related tasks”. If R4 means tasks that are related to Real-time reliability, then outage coordination and assessment and determination of SOLs, IROLs, etc. will certainly meet such criteria and therefore the Support Personnel will need to be trained on the “related” Real-time task. The question then becomes who exactly are the Support Personnel that need to be trained? And trained in what? As written, Responsible Entities will not have a clear understanding of what their obligations are with respect to the who to train and the topics to be including in the training program for Support Staff. We are unable to suggest any specific wording to clarify the definition for Support Personnel and/or Requirement R4 since we do not know what training objective the Standard Drafting Team intends for Support Personnel. Requirement R5-- Regarding R5 and M5, the words “Systematic approach to training” should be replaced by “training” as it is written in R4. This is what is explained in the Rationale Box for R5. It is not necessary to include “applicability section 4.1.5” in R5. R5 part 5.1.1--The expectations and results desired from the RC, BA, TO and TOP are not clear. What constitutes input? Is a comment an input? It is agreed that the GOP should receive input from its Reliability Coordinator (RC), Balancing Authority (BA) and Transmission Operator (TOP). A method that would be sufficient to accomplish that would be to have the RC, BA or TOP post its PRC-005-2 input for GOPs on its website and that the GOPs incorporate the input into their training. The TO should not have to provide input. Transmission Owners and Generator Operators either have contractual, tariff or integrated relationships which forego the need for additional input, and, moreover, the operational Reliability Standards that drives the need for training under PRC-005-2 are relationships between BA,s TOPS, RCS and GOPs – not TOs and GOPs. Recommend that references to TOs be deleted from PER-005-2 R5 and its sub requirements. A suggestion to be considered is to combine R5 and part 5.1 for better efficiency. The wording of R5 could be changed to: Each GOP shall establish and implement training for its personnel which includes coordinating with its RC, BA, TOP, and TO to identify training topics that address the impact of the decision and actions of a GOP’s personnel as it pertains to the reliability of the BES during normal and emergency operations. Part 5.1.1 should be made a separate Requirement because it stipulates requirements for entities other than the GOP. Suggested language for a new R6: Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall provide input to a Generator Operator’s training program established under R5 as requested by the Generator Operator. It should be noted that at the bottom of page 19 of the White Paper, FERC’s response: “training for support personnel should be tailored to the functions they perform and need not be trained to the same extent as Transmission Operators.” Because training for personnel other than TOPs, RCs, and BAs need not be as comprehensive, we would suggest to delete the words “Transmission Owner” from R1, R2 and R3, and instead, create a new requirement for “Transmission Owner”, similar to R4.

No

The revised definition of "System Operator" potentially expands the applicable population

subject to the Standard's training requirements to beyond what was originally intended (e.g. the System Operator). We agree that System Operators and personnel with that authority regardless of title issuing orders for changes in the state of BES Elements should be included in the definition. However, the proposed definitions lack clarity of scope. It is not clear which personnel at the Transmission Owner (TO) might be identified as System Operators. FERC Order 742 only identifies "local transmission control center operator personnel." Yet, the definition is sufficiently broad and subject to interpretation that other personnel could, inadvertently, unintentionally and unnecessarily, also be swept into the definition including: (a) downstream personnel at substations or district offices who implement directives from "local transmission control center operator personnel," but who do not initiate, monitor or control changes in the state of BES Elements, and/or (b) upstream personnel at headquarters and elsewhere who provide administrative supervision of "local transmission control center operator personnel," but who do not directly monitor or control the state of BES Elements. These individuals do not personally monitor or control changes in the state of BES Elements.

Proposed Alternate Wording: System Operator: An individual at a Control Center that monitors, directs and controls the operation of the Bulk Electric System (BES) in Real-time. Per FERC's directive, System Operators should both (1) be located at a "local transmission control center," and (2) "exercise control" over changes in the state of BES Elements (see the Rationale for 4.1.4). Other personnel who either do not reside at the "local transmission control center" and/or do not "exercise control" over changes in the state of BES Elements are excluded. Other concerns with the revision to the defined term "System Operator" to replace the current NERC Glossary term. The revised System Operator definition incorporates the "Control Center" definition that is embodied in the CIP v5 filing in Docket No. RM13-5-000 and which is under consideration at this time by FERC: "Control Center: One or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations." In Paragraph 80 of its NOPR issued in the CIP v5 docket, FERC asked whether the phrase "generation Facilities at two or more locations" intended to include two or more units at one generation plant and/or two or more geographically dispersed units. Therefore, whether this definition will be remanded for further clarification is undetermined at this time. In addition, when the term "System Operator" is used within PER-005-2, it is used in the "System Personnel" definition that is only used within PER-005-2 (i.e., it will not be a NERC Glossary term and will only be used within PER-005-2). Within the System Personnel definition, System Operators are limited to "System Operators of a Reliability Coordinator, Transmission Operator, or Balancing Authority:" Generator Operators, even those GOPs that are subject to the applicability of PER-005-2, are excluded. While the existing System Operator definition uses the language "monitor and control," that language is replaced with the phrase "operates or directs the operation" in the proposed new definition. Whether GOPs are intended to be included in the new System Operator definition has not been made clear. The Standard begins by defining the terms System Operator, System Personnel and Support Personnel, but then applies for GOPs only the word "personnel." It is not clear whether or not

this differentiation was intentional, particularly since Applicability paragraph 4.1.5 appears to describe GOP dispatchers who are System Operators. It would seem that they should have been included in the System Personnel definition.

No

The proposed definition of Support Personnel is intended to respond to a FERC Order 742 Directive. However, the proposed definition lacks clarity of scope. The definition is sufficiently broad and subject to interpretation that other personnel could, inadvertently, unintentionally and unnecessarily, also be swept into the definition. We recommend tighter wording which more closely parrots the FERC Directive. Proposed Alternate Wording: Support Personnel: Individuals who carry out outage coordination and assessments in accordance with IRO-004 and TOP-002, or determine SOLs, IROs or operating nomograms<sup>1</sup> for Real-time operations in accordance with IRO-005 and TOP-004. This definition includes: (i) Reliability Coordinator personnel who conduct Contingency analysis studies to identify potential interface and other SOL and IROL violations (IRO-004), and who identify the cause of any potential or actual SOL or IROL violations (IRO-005); and/or (ii) Transmission Operator personnel who perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs (TOP-002 and TOP-004) ; The specific FERC Order 742 Directive wording was: "... [Who] carry out outage coordination and assessments in accordance with Reliability Standards IRO-004-1 and TOP-002-2, and those who determine SOLs and IROs or operating nomograms in accordance with Reliability Standards IRO-005-1 and TOP-004-0." There is an inconsistency between the VSLs for R1 and R5. Both R1 and R5 require that the Responsible Entity use a systematic approach to training to develop a training program (note that in R5, it's training only, not a training program) for their personnel. The VSL for R1 does not have a level for failure to demonstrate that the Responsible Entity used the SAT to develop the training program. However, a Responsible Entity is assigned a High VSL for failing to use a systematic approach to training to establish training requirements as defined in Requirement R5. The two VSL sets should be consistent with respect to the requirement for using SAT. We suggest the SDT to revise the VSL for R1 to include this violation condition. Refer to the response to Question 2 that references the Rationale Box for R5. Because of the issues mentioned above concerning the proposed definition of "System Operator", unless it is withdrawn or until the PER team revises it to specifically include only Reliability Coordinators, Transmission Operators, and Balancing Authorities we cannot support the Standard. The scope changes, the changes proposed for requirements above, and the discussions regarding R5 are essential to make the standard "results based" and to meet quality review requirements for use.

Individual

John Brockhan

CenterPoint Energy Houston Electric LLC.

No

Yes
No
CenterPoint Energy appreciates the efforts of addressing the remaining Directives outlined by FERC for the Personnel Training Standard. We believe the Standard as it is proposed, however, has ambiguity that may be left up to the auditor’s professional judgment for interpretation of the intent of the requirements. The definition of Support Personnel incorporates “Individuals who carry out outage coordination and assessments”. CenterPoint Energy believes that the umbrella of personnel that could be covered by this generalized title could erroneously encompass long term, mid-term, and short term outage coordination personnel, which would broaden the scope of the requirements further than the intent of the Directive. CenterPoint Energy suggests modifying the definition of Support Personnel to clarify the scope of outage coordination personnel and proposes the following change: System Personnel: Individuals who carry out next day study outage coordination and assessments, or determine SOLs, IROLs or operating nomograms for Real time Operations. CenterPoint Energy also believes that R2.1 offers the industry a window of flexibility for verifying the capabilities of its System Personnel “Within six months”. It is unclear as to whether the training and verification should be performed before or after the modification or addition of the reliability related tasks.
Group
Southwest Power Pool Regional Entity
Emily Pennel
No
No
Glossary changes should be approved through a separate project. Glossary terms are used in other standards and should not be changed by SDTs as part of one project, as that may adversely impact another SDT’s work that pivots on the current Glossary definition. SDTs should conform to the approved Glossary rather than SDTs making changes to the Glossary for their own projects.
Yes
Individual
Brian Reich
Idaho Power Company
No

Requirement 5.1 requires that the Generator Operator have evidence that the Generator Operator coordinated with the RC, BA, TO, or TOP. However Requirement 5.1.1 requires the RC, BA, TO or TOP to have available for inspection evidence that the GO coordinated as well. This subrequirement is redundant of Requirement 5.1. System reliability is not improved by verifying that both entities have an email for coordination. Recommend removing requirement 5.1.1.

Yes

Yes

Group

Tennessee Valley Authority

Brandy Spraker

Yes

Comments: Without better clarification of real time, other non-intended personnel might be determined by auditors as being held to this standard. The term 'Support Personnel' could be clarified to show that both parts of the sentence refers to real-time operations personnel only. Suggested wording: Support Personnel: Pertaining to Real-time operations only for individuals who carry out outage coordination and assessments, or determine SOLs, IROLs or operating nomograms.

Yes

Yes

Individual

John Bee

Exelon and its' affiliates

Yes

Exelon supports the concept of developing Compliance Guidance concurrently with the Standard development because it makes sense to develop audit explanations and tools while the intent and information is fresh and under development. In addition, this is very useful for Registered Entities to understand how compliance will be judged. However, it is not clear how development of Compliance Input is to be conducted. The Compliance Input should evolve as the Standard language evolves through the standards development process and must ultimately reflect the actual language in the final, approved standard. Understanding that no ballot is associated with Compliance Input, it would be very useful for NERC to post Compliance Input with a separate comment form for stakeholder input. Some of the project

SARs cite development of an RSAW. Stakeholder Review and comment on RSAWs and Compliance Input prior to the final ballot of a proposed standard will be mutually beneficial.

Yes

Individual

Jonathan Appelbaum

The United Illuminating Company

Yes

Order 742 was issued prior to the new definition of BES being developed. In order 742 FERC used examples of Transmission Owners in the Northeast who were operating the BES but were not TOPs. This situation is being remedied with the new definition of BES and the transition of Transmission Owners to Transmission Operators. The rationale for adding local control centers has changed.

In R3 the term - that has operational authority or control over Facilities - is used. Does the word operational modify the word control? If a Transmission Owner does not have the operational authority to operate a breaker, but can control the breaker would R3 apply? This is important because it would require an investment to purchase the required simulation technology. It would seem a waste of resources since the Transmission owner is not supposed to issue a control to a Transmission element without the permission of the Transmission Operator. Without a proper EMS model and contingency analysis engine there is no safe way for such a transmission owner to reliably issue a control. In fact the training a Transmission Owner would provide the operator is to never issue such a control. Still on R3, if a Transmission Owner is directed to install a protection system that mitigates an IROL this requirement then states the control room personnel would be subject to R3 even though they have no authority to take an action independent of the Transmission operator's direction.

Yes

No

I believe the facts around Order 742 have changed. This standard will require a Transmission owner that lacks operational authority but can issue a control to have a SAT for answering the phone, using 3-part communication, and following directives. It is beneficial to train on these topics but using SAT is overkill. The R3 requirement for simulation training is unneeded when a Transmission Owner cannot take independent action, cannot redispatch generation, and lacks visibility into the outside world.

Individual

Nazra Gladu

Manitoba Hydro

No
(1) Purpose - for clarity, specify which "personnel" are being referred to - System or Support personnel for example? (2) R3 - for clarity, define IROL and include its bracketed acronym, since this is the first instance of the word in the standard.
Yes
(1) Yes, the new definition simplifies the NERC Glossary Term System Operator.
Yes
(1) Manitoba Hydro is in support of the revised PER-005-2 standard. Our training section administration is already largely compliant with this standard and although our reliability task list is a work in progress, incorporating support personnel and accommodating their training requirements shouldn't impose too much of an additional burden on our current training structure.
Individual
Gerald G Farringer
Consumers Energy
No
None
No
If the definition of System Operator relates only to the operating personnel of the RC, TOP, BA then state so in the definition. Remove redline in this definition.
No
The extension to the Generation Operator (GOP) is not required. If it must be done however the obligation to define the topics or material that needs to be covered in a training program should rest with the RRO, RC, BA or TOP. To make it a requirement for the GOP to request to get this information from these entities is backwards. The training developed should be done with all stakeholder input but it is the RC, BA and TOP that can best define the needs for the GOP.
Individual
Scott Bos
Muscatine Power and Water
No
As there is no direction for how often training is to be delivered in R4 and R5, is there a requirement for capability verification for both these groups of personnel that they can

perform these tasks at least one time. Is training to be delivered at some frequency of more than one time? For personnel covered in R4 and R5, suggest to add a training framework for receiving training at least one time on those real-time reliability-related tasks identified by the entity pursuant to Requirement R1. Adding requirements and measures for proof of coordination in R5 is not "results based", is not practical and will be an administrative compliance burden. The MP&W believes that this is a paragraph 81 issue.

No

The proposed definition could be interpreted as any individual in a Control Center. The definition of System Operator should be reworded to read: "Any NERC-certified individual at a Control Center that operates or directs the operation of the Bulk Electric System in Real Time in the capacity of BA, TOP or RC."

No

Update Support Personnel definition to read: Support Personnel: "Individuals who carry out, in Real-time, planned or forced outage coordination and assessments, or determine SOLs, IROs or operating nomograms for Real-time operations." MP&W appreciates the efforts of the SDT for removing the undefined term "learning objectives" from R1.2. This allows the focus of R1.2 to be on the development of training materials based on the task list created in R1.1 and R1.1.1 and not on the unbounded "learning objectives" from the previous version of PER-005.

Individual

David Thorne

Pepco Holdings Inc.

No

Yes

Yes

Group

PacifiCorp

Kelly Cumiskey

No

Per FERC Order 693, Support Personnel has been described as, "Personnel who carry out outage coordination and assessments in accordance with Reliability Standards IRO-004-1 and TOP-002-2, and those who determine SOLs and IROs or operating nomograms in accordance

with Reliability Standards IRO-005-1 and TOP-004-0.” PacifiCorp agrees that personnel who determine SOLs and IROLs or operate nomograms in accordance with IRO- 005-1 and TOP-004-0, would maintain a level of independent decision making regarding the operation of the BES. However, the inclusion of personnel who “carry out outage coordination and assessments” would expand the scope of responsibility to those who do not make independent decisions regarding system operations. At minimum, PacifiCorp believes that the definition of Support Personnel should be amended to provide more clarity. Specifically, PacifiCorp seeks clarification of the type of outage coordination intended to be within scope of the Support Personnel definition. Under 4.1.5.1 of the Applicability Section the Generator Operator is defined as: “Personnel at a centrally located dispatch center who receive direction from their Reliability Coordinator, Balancing Authority, Transmission Operator, or Transmission Owner and may develop specific dispatch instructions for plant operators under their control.” PacifiCorp maintains that the word “may” implies that even if the aforementioned personnel don’t develop specific dispatch instructions for plant operators under their control, they are still applicable to the standard. This conflicts with the intent of the FERC directive. The PER-005-2 development team has indicated at several PER conference meetings that the training requirements are intended to target personnel providing dispatch instruction. PacifiCorp recommends removing the word “may” to reduce ambiguity. Furthermore, under 4.1.5.1 PacifiCorp seeks further clarity of the term “Modification” in order to understand which “modification” actions performed by “Personnel at a centrally located dispatch control” would no longer exclude those personnel as part of the Generator Operator applicability.

Yes

No

As expressed in the response to question #2, PacifiCorp does not support the proposed standard as it is presently written. PacifiCorp appreciates the opportunity to provide input for this project and looks forward to the next step in the process.

Group

MRO NERC Standards Review Form (NSRF)

Russel Mountjoy

No

Adding requirements and measures for proof of coordination in R5 is not "results based", is not practical and will be an administrative compliance burden. The NSRF believes that this is a paragraph 81 issue.

No

The definition could be interpreted as any individual in a Control Center. The definition of System Operator should be reworded to read: “A NERC-certified individual at a Control Center that operates or directs the operation of the Bulk Electric System in Real Time in the capacity

of BA, TOP or RC.
No
The NSRF appreciates the efforts of the SDT for removing the undefined term “learning objectives” from R1.2. This allows the focus of R1.2 to be on the development of training materials based on the task list created in R1.1 and R1.1.1 and not on the unbounded “learning objectives” from the previous version of PER-005. R4. Recommend that either the rational box or within the background document, clearly state that support personnel’s training is predicated of the entity’s list of BES company-specific Real-Time reliability-related tasks for a BA, RC and or TOP. The NSRF also recommends that the definition of “Support Personnel” to be rewritten as: Support Personnel: Individuals who carry out, in Real-time, planned or forced outage coordination and assessments, or determine SOLs, IROLs or operating nomograms <sup>1</sup> for Real-time operations.
Individual
John Seelke
Public Service Enterprise Group
Agree
NAGF SRT (North American Generator Forum Standards Review Team)
Individual
Matthew Beilfuss
Wisconsin Electric
Yes
PER-005-2, Requirement 5: The GOP is required to use a systematic approach to training (SAT) and take input from the RC, BA, TOP, and TO to identify training topics impacting reliability of the Bulk Electric System during normal and emergency operations. Presumably, other Standards that require the GOP to perform specific training would be a third source of training topics. The framework in Requirement 5 results in three separate processes for GOPs to establish training content subject to compliance review. However, the reliability related training tasks identified will likely be a small subset of the tasks that GOP personnel perform. As an alternative approach, current standards that explicitly require GOP personnel to conduct training (e.g. EOP 005-2 R17) provide a more focused approach. The approach to discreetly identify within the Standards real-time reliability tasks completed by GOP personnel is more “results focused” than requiring the creation of an all-encompassing “program” subject to compliance review. Making the standard applicable to a sub-set of GOP personnel (those located at a centrally located dispatch center that relay dispatch instructions), in some ways amends the NERC functional model and compliance framework established by the reliability standards. We’re not certain of the full implications of this type of role re-definition.
The language in Requirement 1 and Subsection 1.1. limit the scope of the training program for System Personnel to BES company-specific reliability related tasks. No such scope limitation exists in Requirement 5 for GOP personnel. As written, Requirement 5 and Subsection 5.1 establish scope limitations on the (1) GOP personnel subject to the standard and (2) training

topics identified by the RCs, BA, TOP, TO. However, the language includes no scope limitation on the tasks identified by the SAT. We presume the intent of the standard is to only address BES company-specific reliability related tasks? Requirement 5 could be modified as follows: "Each Generator Operator shall use a systematic approach to training to establish and implement training for its personnel described in applicability section 4.1.5. The training shall also include topics identified as follows: 5.1 Each Generator Operator shall create a list of BES company-specific Real-time reliability-related tasks completed by personnel described in 4.1.5.

Yes

No

Existing standards that explicitly identify training tasks for the GOP are sufficient. The requirement to establish a SAT subject to compliance review creates a large and complex program, when the concern is a relatively small sub-set of reliability related tasks executed by a sub-set of GOP personnel creating dispatch instructions.

Individual

Tiffany Lake

Westar Energy

No

Westar Energy supports the scope of the proposed SAR and the removal of EMS personnel and plant control room operators from the scope.

We question the justification of the removal of the 32 hours of emergency operations training and what impact that has on the classification of emergency operations training in general. We request the SDT to provide clarification regarding whether or not entities will still be required to conduct emergency operations training and what, if any, metric will be used to demonstrate compliance. System Operators will always have Real-time reliability related tasks. However, Support Personnel may not. Each entity should be required to first determine whether or not its Support Personnel are performing Real-time reliability related tasks. We suggest revising the proposed R4 language with the following: R4. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall determine if the entity's Support Personnel perform Real-time reliability-related tasks and establish and implement training for Support Personnel specific to those Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1 that relate to the Support Personnel's job function.

Yes

No

Although we support the intent of PER-005-2, we do not support the existing language in R3 and R4. Refer to the comments above in question 2.

Individual
Ronnie Hoeinghaus
City of Garland
No
R1.1.2 – “shall design and develop training materials” requires the registered entity to internally perform this requirement – registered entities (especially smaller entities) should have the option to hire a 3rd party company to perform this task
No
The glossary terms should not be specific to the this standard but added to the NERC Glossary. This will help avoid confusion. Then, regardless of where the terms are used (such as NERC standards, NERC Committee Guideline, NERC Committee white paper, etc), everyone will have the same definition
No
R1.1.2 – “shall design and develop training materials” requires the registered entity to internally perform this requirement – registered entities (especially smaller entities) should have the option to hire a 3rd party company to perform this task The glossary terms should not be specific to the this standard but added to the NERC Glossary. This will help avoid confusion. Then, regardless of where the terms are used (such as NERC standard, NERC Committee Guideline, NERC Committee white paper, etc), everyone will have the same definition
Individual
Silvia P. Mitchell
NextEra Energy
No
NextEra Energy in general supports PER-005-2 with the exception of the manner in which R5 is drafted. While NextEra agrees with the concept that the Generator Operator (GOP) should receive input from its Reliability Coordinator (RC), Balancing Authority (BA) and Transmission Operator (TOP), it does not agree with the method set forth to achieve this goal. Instead, NextEra believes it is sufficient that the RC, BA or TOP post its PER-005-2 input for GOPs on its website and that the GOPs incorporate the input into their training. Nor does NextEra agree that there is a need for input from the Transmission Owner (TO). One, Transmission Owners and Generator Operators generally either have contractual, tariff or integrated relationships which forego the need for additional input, and, moreover, the operational Reliability Standards that drives the need for training under PER-005-2 are relationships between BAs TOPs, RCs and GOPs – not TOs and GOPs. Thus, NextEra recommends that references to TOs be deleted from PER-005-2 R5 and its sub requirements. To effectuate the changes set forth

above, NextEra has revised PER-005-2 R5 as follows: R5. Each Generator Operator shall use a systematic approach to training to establish and implement training for its personnel described in applicability section 4.1.5. The training shall also include topics identified by its Reliability Coordinator, Balancing Authority and Transmission Operator. [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 5.1. Each Reliability Coordinator, Balancing Authority and Transmission Operator, and Transmission Owner shall post on its website training topics related to their interaction with Generator Operator personnel to maintain the reliability of the Bulk Electric System during normal and emergency operations.

Yes

Yes

NextEra Energy in general supports PER-005-2 with the exception of the manner in which R5 is drafted.

Individual

John Canavan

NorthWestern Energy

No

NorthWestern Energy (NWE) objects to the assignment of responsibility to each Balancing Authority and Transmission Operator, that has or gains operational authority over facilities with IROLs, for “training using simulation technology . . . that replicates the operational behavior of the Bulk Electric System,” contained in R3 and R3.1. As was shown by the Southwest blackout of 9/8/2011, an IROL may develop from an SOL based upon real-time conditions or events outside the footprint of the BA or TOP that controls a particular facility. The RC has been tasked with maintaining a wide-area view to identify and respond to threatening conditions that may be outside the visibility of an individual BA or TOP. NWE believes that training on and simulation of IROLs should be the responsibility of the RC who has the wide-area view and the capability of recognizing interactions between events occurring in different BA or TOP areas. A requirement to share this training and simulation with affected BAs and TOPs (similar to requirements EOP-006-2, R10, and EOP-005-2, R12) may be appropriate. NorthWestern Energy (NWE) believes that the Rationale for R4 is deceptive and potentially harmful to the training process (systematic approach) in that it suggests that the tasks performed by Support Personnel will be defined by the job analysis performed for real-time system operators. Systematic analysis of the job functions of real-time operators and Support Personnel will identify the different responsibilities of each with regard to a single operational process (e.g., mitigate a violation of an SOL). NWE believes the language of R4 should be clarified to define the extent of the job analysis that will be required for Support Personnel and the extent of the training that will be required for Support

Personnel under this standard.
Individual
Michael Falvo
Independent Electricity System Operator
Yes
<p>We question the need to ask this question when the consolidated standard is already posted for commenting and balloting. The intent of posting a SAR for comment is to seek industry's input on the need and scope of a proposed standard development/revision project. Posting the standard for balloting at the same time suggests that there is already a foregone conclusion on the need and the scope for this project , and that the industry's input on SAR would seem irrelevant. The IESO understands that posting a SAR and the draft standards for comment at the same time can improve standard development efficiency, and we support it to the extent that sufficient technical information has been obtained to facilitate the development of a draft standard at the informal outreach stage. However, we are very concerned about the fact that the industry was asked to ballot the draft standard when the need and scope of the draft standard have not been commented on and supported by the industry, and the standard itself has not been drafted by a formal standard drafting team. Such an approach appears to: a. Deviates from the normal standards development process as presented in the Standards Process Manual (SPM); b. Contradicts and perhaps violates the intent of the established standard development process and ANSI principles to have new and revised standard formally developed through an open and inclusive process before being presented to the RBB for balloting. The industry is being asked to ballot a set of standards that has not been formally developed. This concept appears to be fundamentally flawed. We propose that the SDT convey our concern to the NERC senior management and the Standards Committee. We further suggest that NERC and the SC evaluate alternative approaches or make revisions to the SPM to provide the needed flexibility that can further improve the efficiency in standard development if certain elements in the existing SPM are assessed to restrict such improvements.</p>
<p>a) There appears to be an inconsistency between the definition of Support Personnel and Requirement R4, or an unclear definition or an unclear requirement or both as it relates to Real-time reliability-related tasks. The proposed definition of Support Personnel is: Individuals who carry out outage coordination and assessments, or determine SOLs, IROLs or operating nomograms for Real-time operations. This definition clearly indicates that these personnel do not perform any Real-time tasks, although their tasks produce results that are applied in Real-time operations. R4 stipulates that: Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for Support Personnel specific to those Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1 that relate to the Support Personnel's job function. R4 is unclear as to whether or not the Responsible Entities need to establish and implement training for Support Staff on Real-time tasks. If R4 means tasks that are related to Real-time reliability, then outage coordination and assessment and determination of SOLs,</p>

IROLs, etc. will certainly meet such criteria and therefore the Support Personnel will need to be trained on the “related” Real-time task. However, such an interpretation will mean that almost every task in a Control Centre is related to Real-time operation. The question becomes: who exactly are the Support Personnel that need to be trained? If only those personnel that perform tasks as indicated in the definition, then why would they need to be trained on Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1, and what does it mean by “that related to the Support Personnel’s job function”? The above questions and interpretations reflect that Requirement R4 and its relation to the definition of Support Personnel are unclear. As written, Responsible Entities will not have a clear understanding of what their obligations are with respect to who to train and the topics to be included in the training program for Support Staff. Much clarity is needed in Requirement R4 or the proposed definition for Support Personnel or both. We are unable to suggest any specific wording to clarify the definition for Support Personnel and/or Requirement R4 since we do not know what the objective (the kind of training) the SDT has in mind when it comes to providing training to the Support Personnel. b) Intuitively, we have difficulty understanding the basis for assigning a Long-Term Planning Time Horizon to the five requirements of a standard that addresses training for operating personnel and support personnel. As suggested by a number of requirements in the standard, training is delivered at least annually, if not more frequently, and the training program needs to be reviewed and revised once a year. This is much shorter than the Long-term Planning time frame. The intent of the Time Horizon is to indicate the general time frame to correct a non-compliance with a requirement. We do not see how a non-compliance of any of the requirements should wait for more than a year to mitigate, in view of the time frame stipulated in the requirements. We suggest to change the Time Horizons to Operations Planning.

Yes

No

We are unable to support this standard as presented, for the reason as cited in Comment (a) under Question 2, above. In addition, there is an inconsistency between the VSLs for R1 and R5. Both R1 and R5 require that the Responsible Entity use a systematic approach to training to develop a training program (note that in R5, it’s training only, not a training program) for their personnel. The VSL for R1 does not have a level for failure to demonstrate that the Responsible Entity used the systematic approach to develop the training program. However, a Responsible Entity is assigned a High VSL for failing to use a systematic approach to training to establish training requirements as defined in Requirement R5. The two VSL sets should be consistent with respect to the requirement for using systematic approach. We suggest the SDT to revise the VSL for R1 to include this violation condition.

Individual

Chris de Graffenried

Consolidated Edison Co. of NY, Inc.

Agree

Northeast Power Coordinating Council (NPCC) - All comments
Individual
Mahmood Safi
Omaha Public Power District
No
Please see comments provided by MRO NSRF.
No
Please see comments provided by MRO NSRF.
No
This standard is proposing adding operating support personnel to receive training for the tasks they provide support to the operators. Operating support personnel such EMS and or engineering support personnel and the support they provide is in their areas of expertise. We believe adding these personnel, who are experts in their fields, is adding additional layers of compliance and the risk associated with maintaining compliance. We propose removing operating support personnel from training requirement under PER-005-2. In order to address FERC's directive related to operating personnel training, the standard should proposed that the Registered Entity's training program under the current PER-005-1 should determine who in addition to the operators would be required to receive training on the specific task a support personnel provide. The blanket requirement as proposed in PER-005-2, as mentioned above, is creating additional compliance burden without providing any benefit to the reliability of the BES.
Group
Bonneville Power Administration
Jamison Dye
No
BPA requests that the drafting team revise the applicability section to provide additional clarity to the 'Generator Operator' section. Within the 'rationale' section for applicability 4.1.5 of the draft standard there is a statement 'Plant operators located at the generator plant site are not required to be trained in PER-005-2.' BPA suggests that this statement be included in the final standard text to provide the additional clarity necessary.
Yes
No
BPA requests that the drafting team revise the applicability section to provide additional clarity to the 'Generator Operator' section. Within the 'rationale' section for applicability 4.1.5

of the draft standard there is a statement 'Plant operators located at the generator plant site are not required to be trained in PER-005-2.' BPA suggests that this statement be included in the final standard text to provide the additional clarity necessary.

Group

Oklahoma Gas & Electric

Terri Pyle

Yes

We have some concern regarding what appears to be creep in scope associated with personnel training in PER-005-2. We are concerned that as this scope continues to expand and include non-certified personnel on the fringes of the functionality of the operating desk, maintaining compliance with the standard could become a burdensome task to the industry as well as create an equally increased risk of non-compliance for an issue that has very little impact on the reliability of the BES. While we realize that the drafting team has attempted to address issues directed by FERC, perhaps there is an alternative solution to the proposed standard as the team found with the inquiry into including EMS support personnel in the standard.

The 6-month lead-time for simulator training in R3 may not be adequate depending upon whether the entity has access to a simulator. Unless the entity has its own simulator, the simulation provided would be of a generic nature. To obtain more customized, specific simulator training may require acquisition of a simulator and providing for staff to develop and implement simulator training. This would require much more than 6-months lead-time. We are also concerned with the openness of the 'relate to' phrase in R4 and would suggest the following replacement for R4: Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for Support Personnel who perform Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1.

Yes

No

We recommend changing Requirement 4 to remove the obligation to train all support personnel with language that only requires training for support personnel who actually perform the company specific reliability-related tasks.

Group

Hydro One

Sasa Maljukan

Agree

We'd like to support NPCC RSC Comments. Additionally Hydro One would like to note that in R3 we don't understand how R1's Systematic Approach to Training would cover 32 hour requirement. We believe that the Systematic Approach to Training is a methodology for managing training. It does not set criteria. Regulations, Instructions, etc. will set out the

criteria and guidelines that are to be followed for operation of the power system. The 32 hours of EOPs should not be removed from R3 unless they will/are showing up in other NERC documentation.

Individual

Brett Holland

Kansas City Power & Light

Agree

SPP & North American Generator Forum

Individual

Ed Mackowicz, David Austin, Shawn White, Bernard Horvath, Huston Ferguson

NIPSCO

No

Justification: • Standards should be written clearly and easily interpretable. We don't feel this one is as the need for "rationale" statements clearly points out. • As written we perceive a wide range of "interpretation" variances between entities and or auditors which is in contradiction to FERC's and NERC's intent. • We oppose the introduction of new terms or the use of Functional Entities or relationships that don't exist in the NERC Glossary of Terms or the NERC Functional Model to show or explain clear relationships and interactions. • PER-005-1 "System Personnel Training" was deployed to address training for System Operators performing real-time reliability-related tasks on the BES. We believe this standard to be necessary and adequate for its purpose. The proposed PER-005-2 "Operations Personnel Training" reaches past the System Operators (NERC Definition) to additional personnel not called out or properly defined in the functional model to be included in this standard. If NERC needs to address specific loop holes that are being leveraged or entity structural organization issues with respect to BES operations it should be outside of this standard. • Training requirements for those performing RTRR tasks are far different than those performing "support" for or around those tasks. As written, we believe training will be imposed that is unsupported in the model and open to interpretation as to what level it should extend. • We acknowledge we need to provide maximum flexibility to the industry while addressing the reliability concerns in the FERC directives. We just don't know if it does that and or oversteps FERC's intentions.

No

System operator should remain as it has been. The proposed new definition allows for expanded interpretation that we may not agree with.

No

Clarity in the requirements that wouldn't necessitate "rationale" comments for understanding. Definitions and terms should be consistent with the NERC Functional model and be consistent across all standards, not utilized or created for one standard alone. Support

personnel are not "Operators" and shouldn't be viewed as such for training requirements.
Group
Tacoma Power
Michael Hill
Yes
Real time roles they are depicting (System Personnel) are unclear. Not sure how to take our current task list that we defined for system operators and just qualified them on in April 2013 and then over lay it on these additional job descriptions (System Personnel). Our fear is that we would need to significantly change our current task list to meet this proposed standard as written, which is a huge under taking. That being said we would still need them to clarify who these other real time people would be. 2. PER-005-1 R3.1 has not yet been implemented nor is it enforceable until April 01, 2014. 3. Better clarify the specific intent of PER-005-2 R5. At Tacoma this "generator operator" is what we refer to as our Senior System Operator who does start and stop Tacoma's generation from a central control center, however definition seems unclear. My recommendation would be to vote No at this time. We need the drafting team to give better clarification on above said statements.
PER-005-1 R3.1 has not yet been implemented nor is it enforceable until April 01, 2014.
Yes
Better clarify the specific intent of PER-005-2 R5. At Tacoma this "generator operator" is what we refer to as our Senior System Operator who does start and stop Tacoma's generation from a central control center, however definition seems unclear.
No
Refer to above comments
Individual
Kenneth A Goldsmith
Alliant Energy
Yes
Support personnel should be defined as those supporting "reliability" outage coordination and assesments.
Alliant Energy believes the Emergency Training should include a set number of hours. By leaving it as written, it is up to the discretion of the Regional Entity as to what is "Adequate" and leaves the Registered Entity open to findings after any sort of event.
Yes
No
In general, we support the revisions, however, as noted in our comments, there are apecific areas that we believe need to be revised prior to the standard being acceptable.

Group
Dominion
Mike Garton
No
Requirement 4 – Suggest it be revised as follows “Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall provide training to their Support Personnel according to a systematic approach to training (SAT). Such an approach must include the following minimum elements: a list of job tasks performed by Support Personnel that relate specifically to the reliability of the BES and support real-time operation, learning objectives tied to those tasks, training content tied to the objectives, delivery and evaluation of the training.” Requirement R5 – Suggest that the requirement be revised as follows “Each Generator Operator shall provide training to its applicable personnel according to a systematic approach to training (SAT). Such an approach must include the following minimum elements: a list of job tasks performed by applicable Generator Operator personnel that relate specifically to the reliability of the BES and support real-time operation, learning objectives tied to those tasks, training content tied to the objectives, delivery and evaluation of the training. R5.1 The Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall provide input as requested by the Generator Operator.”
No
: Dominion does not agree with this change and suggests that only Control Center be capitalized. Our reasons for opposing modification of the existing term are primarily due to the authority that this term has historically bestowed upon those who carried out the functions (BA, RC and TOP), the fact that the term is used in many other existing standards (most of which explicitly point to BA, RC and TOP) and the fact that NERC currently has a certification program (see portion of webpage below) appropriately called the System Operator Certification and Continuing Education. [ <a href="http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx">http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx</a> ] Excerpt: “System Operator Certification In support of NERC’s mission, the System Operator Certification Program’s promotes reliability of the North American bulk power system by ensuring that employers have a workforce of system operators that meet minimum qualifications. These industry accepted qualifications are set through internationally recognized processes and procedures for agencies that certify persons. Governance The Personnel Certification Committee (PCGC) is a NERC standing committee that provides oversight to the policies and processes used to implement and maintain the integrity and independence of the NERC System Operator Certification program. The PCGC provides reports to the NERC Board of Trustees and NERC President regarding the governance and administration of the System Operator Certification Program.”] Further Dominion believes that the proposed defined term System Personnel adequately includes all operating personnel that operate or direct the operation of the Bulk Electric System in Real- time given these personnel consist of System Operators (in BA, RC and TOP Control Centers) as well as Transmission Owner personnel described in 4.1.4.1.

No
Individual
Scott McGough
Georgia System Operations Corporation
Yes
<p>The current PER-005-1 standard applies to System Operators. The new personnel (generation operator, local control center personnel, and support personnel) that are proposed, could be added to the current standard but leave the current requirements and definition of System Operator alone since they are currently well defined. The SDT should define the local control center. This should be done in the way currently proposed as it has added confusion to who is defined as a System Operator.</p> <p>Do not change the definition of "System Operator." There is no problem with it. Define "Local Control Center" as "a control center of a Transmission Owner that has personnel who operate a portion of the Bulk Electric System at the direction of its Transmission Operator and a centrally located dispatch center of a Generator Operator that has personnel who receive direction from their Reliability Coordinator, Balancing Authority, Transmission Operator, or Transmission Owner and may develop specific dispatch instructions for plant operators under their control. Generator Operator dispatch centers with personnel who relay dispatch instructions, without making any modifications, and generator plant control rooms are excluded." Change the definition of "System Personnel" to "System Operators of a Reliability Coordinator, Transmission Operator or Balancing Authority, and Transmission Owner Local Control Center personnel who operate a portion of the Bulk Electric System at the direction of its Transmission Operator. Change the definition of "Support Personnel" to "Individuals, other than System Operators, who carry out outage coordination and assessments, or determine SOLs, IROs or operating nomograms for Real-time operations. Change Applicability to 4.1. Functional Entities: 4.1.1 Reliability Coordinator 4.1.2 Balancing Authority 4.1.3 Transmission Operator 4.1.4 Transmission Owners that have Local Control Centers 4.1.5 Generator Operators that have Local Control Centers Change R5 to "Each Generator Operator that has a Local Control Center shall use a systematic approach to training to establish and implement training for its Local Control Center personnel who receive direction from their Reliability Coordinator, Balancing Authority, Transmission Operator, or Transmission Owner and may develop specific dispatch instructions for plant operators under their control. The training shall also include topics identified as follows:" Delete R5.1 and R5.1.1. Generator Operators that have Local Control Centers should develop their own training topics and should not be required to coordinate with other entities. Other entities should not be required to coordinate with Generator Operators that have Local Control Centers.</p>
No
<p>The proposed definition of System Operator utilizes the pending regulatory approval definition of Control Center. The definition of Control Center states "facilities hosting</p>

operating personnel that monitor and control the Bulk Electric System in real-time to perform the reliability tasks". The proposed definition for System Operator states "operates or directs the operation of Bulk Electric Ssystem in Real-time". These two definitions should match. FERC directed NERC to define local control center. The proposed method of NERC to define a local control center does not seem to address the concerns of FERC.

No

We do not support the revised PER-005-2 because of the change in definition of System Operator, the lack of a definition for a local control center, the definitions of System Personnel and Support Personnel, the applicability section, and R5. We do not support it because it is not clear and is very confusing.

Group

Florida Municipal Power Agency

Frank Gaffney

No

Adding R5 requirements and measures for "proof of coordination" is not results based and not practical. The added requirements for "coordination" in R5 are really routine matters that will occur regardless of whether there is a requirement specified. Having measures requiring "proof" only creates an administrative compliance burden. If you consider how many "pieces" of paper will have to exchange hands amongst so many registered entities, especially in larger systems, it will be untenable. R5.1 & 5.1.1 and M5.1 & 5.1.1 should be deleted. R5.1. Each Generator Operator shall coordinate with its Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner to identify training topics that address the impact of the decisions and actions of a Generator Operator's personnel as it pertains to the reliability of the Bulk Electric System during normal and emergency operations. R5.1.1. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall provide input as requested by the Generator Operator. M5.1 Each Generator Operator shall have available for inspection evidence, such as an email or attestation that it coordinated with the Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner in establishing the training requirements. M5.1.1 Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall have available for inspection evidence, such as an email or attestation, that it provided input to the Generator Operator.

No

Definition of System Operator can be interpreted to mean any individual in a Control Center. Proposed definition is as follows: System Operator: An individual at a Control Center that operates or directs the operation of the Bulk Electric System in Real Time. This can be interpreted in two ways: : 1) any individual, such as cleaning people, in a Control Center where the Control Center has the capability to operate or direct (certainly not the intent); or 2) to an individual who has the authority to operate or direct who is located at a Control

Center (certainly the intent). FMPA suggests a minor modification to remove this ambiguous reference.. System Operator: An individual, at a Control Center, that operates or directs the operation of the Bulk Electric System in Real Time.

No

See comments to questions 2 and 3 above. In addition FMPA has the following comments: The applicability to Transmission Owners is too broad and not necessary to address the FERC directive. Proposed Standard language adds the following applicability for Transmission Owners. 4.1.4 Transmission Owner that has: 4.1.4.1 Personnel in a transmission control center who operate a portion of the Bulk Electric System at the direction of its Transmission Operator. This applicability language will apply to all Transmission Owners regardless of whether they have a thousand breakers or one breaker. It is clear by the language in the order at P62, that FERC was concerned with large entities with significant control and impact on the BES. Order 742 at P62. The Commission understands that local transmission control center personnel exercise control over a significant portion of the Bulk-Power System under the supervision of the personnel of the registered transmission operator. This supervision may take the form of directing specific step-by-step instructions and at other times may take the form of the implementation of predefined operating procedures. For example, ISO New England, Inc., PJM Interconnection, L.L.C., and New York Independent System Operator, Inc., are registered transmission operators who issue operating instructions that are carried out by local transmission control centers such as PSE&G, PPL Electric Utilities Corp., PECO Energy Company, Baltimore Gas and Electric Co., Consolidated Edison of New York, Inc., National Grid USA, and Long Island Power Authority, which are not registered transmission operators. The combined peak load of these three RTOs is in excess of 200 gigawatts. In all cases, the local transmission control center personnel must understand what they are required to do in the performance of their duties to perform them effectively on a timely basis. Thus, omitting such local transmission control center personnel from the PER-005-1 training requirements creates a reliability gap. The Commission believes that identifying these entities would be a valuable step in delineating the magnitude of that gap. (emphasis added) The directive in the order 742 did not direct that all Transmission Owners be included in the training requirements, but only directed that local transmission control center operator personnel have training requirements and to define "local transmission control center". 64. Accordingly, we adopt our NOPR proposal and direct the ERO to develop through a separate Reliability Standards development project formal training requirements for local transmission control center operator personnel. Finally, given the numerous comments stating that term "local transmission control center" should be defined, we direct NERC to develop a definition of "local transmission control center" in the standards development project for developing the training requirements for local transmission control center operator personnel. (emphasis added) The SDT should abandon the approach of adding the broad Transmission Owners applicability that will include any Transmission Owner regardless of size or impact to the BES and/or to prove they are excluded. Instead, the SDT should establish some boundaries and criteria around a "local transmission control center" definition as directed by FERC. Possibly MW's controlled by the control center or other criteria, such as those within the CIP v5

brightlines, may be appropriate. The RSAW has not been developed so it is difficult to understand how the standard will be enforced. In order to better assess and evaluate a standard, a draft RSAW should be available to understand what the compliance and enforcement expectations are regarding evidence, documentation, attestations, etc. The Compliance Operations Guidance provided on the Project page for the most part simply repeats back the measures in the standards and does not provide added insights. So it is premature to ballot the standard without such information.

Individual

Scott Berry

Indiana Municipal Power Agency

Indiana Municipal Power Agency (IMPA) does not agree with requirement R5.1. with the need for the GOP to “coordinate” with its RC, BA, TOP, and TO. First, this requirement is not “results based” and it is an administrative compliance burden. It is also not practical because it is placing a GOP’s compliance on another entity’s action with the use of “coordinate”. If the SDT wants the GOP to have a training program, let the GOP have control over what is in it and be completely responsible for it. However, IMPA believes this requirement should be deleted along with requirement R5.1.1..

No

The definition could mean every person in the Control Center is a System Operator, including the cleaning person. It is not clear if the definition is applying the last part of the definition (“that operates or directs the operation of the Bulk Electric System in Real Time”) to the individual or the Control Center.

No

1. IMPA does not support this standard due to the comments in questions 2 and 3. IMPA would also like to see the RSAW to understand how this standard will be enforced. 2. In addition, it is not clear what the GOP will have to provide to show its decision when it comes to deciding its applicability under section 4.1.5.

Group

PPL NERC Registered Affiliates

Brent Ingebrigtsen

No

These comments are submitted on behalf of the following PPL NERC Registered Affiliates (PPL): Louisville Gas and Electric Company and Kentucky Utilities Company; PPL Electric Utilities Corporation, PPL EnergyPlus, LLC, PPL Generation, LLC, PPL Montana, LLC and PPL Susquehanna, LLC. The PPL NERC Registered Affiliates are registered in six regions (MRO, NPCC, RFC, SERC, SPP, and WECC) for one or more of the following NERC functions: BA, DP, GO, GOP, IA, LSE, PA, PSE, RP, TO, TOP, TP, and TSP.

PPL thanks the SDT and agrees with the inclusion of Generator Operator as defined in the applicability section of the standard. PPL request that the SDT consider removing the Transmission Owner (TO) from the list of entities included in Requirement 5. The inclusion of the TO in the applicability section limits the scope to “personnel in a transmission control center who operate a portion of the Bulk Electric System at the direction of its Transmission Operator. Thus, the TOP is in the best position to provide adequate and complete input as to the GOP training topics. The obligation to coordinate with the TO as well as the TOP appears to be redundant or unnecessary, as the NERC functional model assigns the Reliability Coordinator as the entity with the wide area view, situational awareness, and responsibility to issue corrective actions and emergency procedure directives in coordination with the Balancing Authority and Transmission Operator.

No

PPL has several concerns with the revision to the defined term “System Operator” to replace the current NERC Glossary term. 1. The revised System Operator definition incorporates the “Control Center” definition that is embodied in the CIP v5 filing in Docket No. RM13-5-000 and which is under consideration at this time by FERC: “Control Center: One or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations.” In Paragraph 80 of its NOPR issued in the CIP v5 docket, FERC asked whether the phrase “generation Facilities at two or more locations” intended to include two or more units at one generation plant and/or two or more geographically dispersed units. Therefore, whether this definition will be remanded for further clarification is undetermined at this time. 2. In addition, when the term “System Operator” is used within PER-005-2, it is used in the “System Personnel” definition that is only used within PER-005-2 (i.e., it will not be a NERC Glossary term and will only be used within PER-005-2). Within the System Personnel definition, System Operators are limited to “System Operators of a Reliability Coordinator, Transmission Operator, or Balancing Authority:” Generator Operators, even those GOPs that are subject to the applicability of PER-005-2, are excluded. 3. Furthermore, while the existing System Operator definition uses the language “monitor and control,” that language is replaced with the phrase “operates or directs the operation” in the proposed new definition. Whether GOPs are intended to be included in the new System Operator definition has not been made clear by the PER team. 4. The standard begins by defining the terms System Operator, System Personnel and Support Personnel, but then applies for GOPs only the word “personnel.” It is not clear whether or not this differentiation was intentional, particularly since Applicability para. 4.1.5 appears to describe GOP dispatchers who are System Operators. It would seem in this case, though, that they should have been included in the System Personnel definition.

No

PPL has identified issues in response to Questions 2 and 3 above that they believe should be addressed in a future version of this standard.

Group
Iberdrola USA
John Allen
No
No
NYSEG/RGE/CMP are concerned that the change in System Operator definition is vague and opens the standard to a wider range of interpretations than that of the previous definition. We request clarification of this new definition to better understand the scope of the change. Additionally, as this term is used in other standards (e.g. PER-003) a change in this definition needs to be properly vetted per NERC Standards Process Manual Section 5 to ensure that there is no change in the intent of that standard: "If a term has already been defined, any proposal to modify or delete that term shall consider all uses of the definition in approved Reliability Standards, with a goal of determining whether the proposed modification is acceptable, and whether the proposed modification would change the scope or intent of any approved Reliability Standards."
No
The addition of R4 and Support Personnel could significantly expand the scope and cost of training programs. The plane language of R4 appears to be less prescriptive than R4 taken with the rationale. Without the rationale, the plane language could be interpreted to apply only to traditional system operations personnel. The rationale expands this to planning personnel. Training of planning personnel should be separate than for System Operators.
Individual
John Taylor
Individual consumer
No
R4 in the Pro Forma Standard requires training for Support Personnel. R5 Requires training for Generator Operators using SAT. NERC Compliance stated in their Draft Reliability Standard Compliance Guideline for PER-005-2 in their answer to Question 2 that "Without a definition of, or reference to, a specific SAT, it would be difficult for auditors to assess an entity's training program because no benchmark is provided within the standard." So, in effect, training for Support Personnel would not be subject to SAT. The Pro Forma Standard draft includes an explanation for the omission of specifically mentioning SAT from R4. That explanation basically says that the entities would look to the list of reliability related tasks already developed for System Operators, and that training would be on those System Operator tasks that Support Personnel perform. Support Personnel don't perform System

Operator tasks. System Operators perform System Operator tasks. Even if the intent is that Support Personnel are trained on those their functions that support System Operator tasks, that does not identify Support Personnel tasks that impact company specific real time reliability related tasks. How are these identified? How are the Support Personnel functions identified if not through some sort of analysis (part of a SAT process). If the guidance of NERC Compliance Operations is followed in audit PER-005-2 as written SAT will not be required for Support Personnel training. Training done not following SAT is not valid training for tasks and will never make it past FERC. The FERC Order does say that Support Personnel need not be trained to the extent of transmission operators on transmission operator tasks, but that does not imply that SAT need not be used to develop and deliver their training. EMS personnel were excluded from the Pro Forma Standard based on a NERC Events Analysis determination using TADS and GADS data on, I believe, based on relay operations data. Breaker operations happen all the time and are not "Events" that necessarily result in mis-operations and are irrelevant in deciding if training is needed for EMS personnel. The relevancy of the data should be verified and applicable data used since EMS personnel training was one of the major contributors to the 2003 blackout.

Yes

No

Change R4 to include SAT for Support Personnel, and verify the relevancy of the data used by the Events Analysis Subcommittee to exclude MES personnel from the standard.

Group

Bureau of Reclamation

Erika Doot

Yes

The Bureau of Reclamation (Reclamation) suggests that the drafting team should include all definitions proposed in the standard in the NERC Glossary. Reclamation believes that standard-specific definitions further complicate an already complex regulatory framework. Reclamation also requests that the drafting team clarify the term "local transmission control center" because it appears to suggest that Transmission Owners are always Transmission Operator or System Operators. The definition of "local transmission control center" is confusing because it incorporates the phrase "transmission control center" without defining it or incorporating the NERC definition of Control Center. It is unclear whether a generator owner and operator (GO/GOP) that is also a transmission owner (TO) would be considered to have a "transmission control center" under the proposed definition. It is not uncommon for GO/GOP/TOs to have a limited number of bulk electric system transmission facilities that they operate in coordination with the local Transmission Operator (TOP) and Balancing Authority (BA). Reclamation does not believe that these facilities should be considered "transmission control centers" because these facilities do not generally have a view of or control the local transmission system. The proposed definition of "local transmission control centers" is not

detailed enough to determine whether a GO/GOP/TO control center would be considered a “transmission control center” in addition to a generation Control Center. Reclamation understands that the drafting team is attempting to address the FERC directive but believes that the current proposal is not sufficiently clear.

Reclamation recommends that GOPs should be free to develop their own training programs under a systematic approach to training. Reclamation suggests that if coordination of GOP training topics with Reliability Coordinators (RCs), Bas, and TOPs is necessary for BES reliability, the RC should be required to lead this coordination. RCs would be more appropriate to lead this effort than GOPs so that consistent training is suggested to GOPs, and so that RC concerns expressed to generators are understood, coordinated, and concurred with by BAs and TOPs who generally communicate with GOPs. Reclamation also suggests that training topic coordination with TOs should not be required because TOs do not generally develop instructions for individuals at GOP Control Centers who operate or direct the operations of the Bulk Electric System in Real-Time. If the drafting team determines that training topic coordination is necessary for BES reliability and should be retained in the standard, Reclamation recommends that the drafting team specify the required frequency of training topic coordination in R5, perhaps every two to three years. If the periodicity is not specified, Reclamation requests that the drafting team clarify whether it is meant to be an annual requirement? Reclamation also requests that the drafting team clarify whether GO/GOP/TO entities with limited BES transmission assets are meant to be included in the R4 required training for Support Personnel. The definition of Support Personnel applies to “Individuals who carry out outage coordination and assessments.” GO/GOP/TO entities generally submit outages and therefore engage in outage coordination, and may conduct assessments of outage impacts on generator operations, but they generally do not conduct assessments of outage impacts on the BES, so it appears that GO/GOP/TO entities would not have “Support Personnel” or be required to comply with R4. Reclamation requests that the drafting team clarify whether support personnel subject to the standard must conduct assessments of outage impacts on the BES. As described in Q1, Reclamation also requests that the drafting team clarify the definition of “local transmission control center.”

No

Reclamation requests that the drafting team clarify whether GOPs can be considered “System Operators” under the revised definition. Although GOPs operate BES-qualifying facilities that may include some qualifying transmission elements, Reclamation does not consider these operations to constitute “operating the Bulk Electric System” like a Transmission Operator, Balancing Authority, or Reliability Coordinator with a wide-area view of a transmission system. Reclamation does not believe that GOPs should be included in the definition of System Operator, but by incorporating the definition of Control Center which includes GOP Control Centers into the definition of System Operator, the ad hoc team appears to be suggesting that GOPs at Control Centers may be System Operators.

No

Reclamation recommends that GOPs should be free to develop their own training programs under a systematic approach to training. Reclamation suggests that if coordination regarding

GOP training topics needs to occur with the RC, BA, and TOP, then the RC should be required to lead the coordination. Reclamation suggests that TOs should be removed from R5.1 because they do not typically participate in the development of operating instructions for GOPs. Reclamation suggests that the drafting team clarify that GO/GOP/TOs who operate BES transmission equipment under the direction of TOPs do not develop dispatch instructions and therefore do not operate “local transmission control centers.”

Individual

Texas Reliability Entity, Inc.

Texas Reliability Entity, Inc.

Yes

The SAR has Generator Owner selected but the Standard makes no reference to a Generator Owner. This training standard should be expanded to apply to key GO operating personnel who control significant generation installations.

No

The “Control Center” term constrictively limits the definition. For instance, the most severe single contingency could be a single generating facility and the individuals operating that facility (on-site GO personnel) would be exempt from the Standard. Consider adding GO personnel to the applicability, perhaps limited to the personnel “that operate or direct the operation of a portion of the Bulk Electric System” or something similar, as was done with the TO in the applicability section.

No

The Standard is not supportive of reliability. The training is dependent upon a self-determined list which may or may not include significant “company-specific Real-time reliability-related tasks”. There is no delivery requirement on any periodic basis (only have to verify capabilities “once” and changes within 6 months.) As written a “company-specific Real-time reliability-related task” could be system restoration and the actions needed to restore the system could change but the task itself not change on the list. The change in actions may not be considered a modification of the task by the responsible entity and therefore no training would be required. There are no mandatory criteria by which the quality or effectiveness of an entity’s training program can be evaluated, and there is no basis for the CEA to identify a deficiency based on an incomplete task list or an ineffective training program. An entity can fully satisfy the proposed requirements by designing and delivering an ineffective program. The newly defined term “Support Personnel” is inclusive of the FERC order comments explicitly but fails to capture many of the “BES company-specific Real-time reliability related tasks” determined in R1. Why limit the training for the Support Personnel to a few basic comments by FERC? Additionally in Order No. 742 there is the Paragraph 5 statement “In Order No. 693, the Commission also directed the ERO to determine whether it is feasible to develop meaningful performance metrics associated with the effectiveness of a training program required by currently effective Reliability Standard PER-002-0 and to consider whether personnel who

support Energy Management System (EMS) applications should be included in mandatory training pursuant to the Reliability Standard". Why was that not considered? The rationale for removal of 32 hours of Emergency Operations is ambiguous and troublesome. What "should" be part of a systematic approach is dependent upon who develops the approach. Basic requirements such as 32 hours of Emergency Operations training were provided to appropriately shape the systematic approach. Does the SDT believe that each entity (Registered and Regional) has a consistent understanding of a SAT? The guidelines provide some reference but no requirements for a SAT. If the 32 hours is redundant per Paragraph 81, indicate where the redundancy exists. There are no periodic training requirements for the GOP personnel (no calendar year reference, no "once" requirement, no modification or new requirement.) Depending on when a company is audited, the personnel may not have been trained or had the training material delivered per R1.3 which has no timing requirement. This makes the VSL for R2 troublesome and does not take into consideration training schedules. If an entity has a three year timeline for the systematic approach to training, then R2 is unenforceable. The Severe VSL for Requirement 3 (specifically the "or" language associated with Requirement 3.1) does not reflect or represent the language within the Requirement.

Group

Associated Electric Cooperative, Inc. - JRO00088

David Dockery

Agree

SERC OC Review Group comments

Individual

Anthony Jablonski

ReliabilityFirst

ReliabilityFirst has a comments related to Requirement R5, Part 5.1.1 Q2 - The parent Requirement R5 is only applicable to the Generator Operator while the associated sub Part 5.1.1 is applicable to the Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner. Reliability standard requirements need to state the Applicable entity within each parent requirement and are not allowed to designate different Applicable entities within the associated sub-parts. ReliabilityFirst recommends making Part 5.1.1 a new separate, stand alone, requirement applicable to the Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner.

Yes

ReliabilityFirst offers the following comments related to certain Violation Severity Levels: 1. Requirement R1 VSL - a. The first moderate VSL references Part 1.1.2 and there is no corresponding Part 1.1.2. ReliabilityFirst recommends the SDT review the standard requirements and VSLs to ensure they are consistent. b. The second Moderate VSL indicates "...failed to provide evidence..." and within Part 1.4 there is no requirement to "provide

evidence". Providing evidence is simply a means of complying with a requirement and does not indicate the degree to which an entity failed to comply. ReliabilityFirst recommends the following for consideration, "The Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner, failed to conduct an evaluation of its training program each calendar year to identify needed changes to its training program(s). (1.4)" c. The second Severe VSL is inconsistent with Requirement R1, Part 1.3. Part 1.3 does not require the entity to "deliver training" rather it requires the design and development of training materials. ReliabilityFirst recommends the following for consideration, "The Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner failed to design and develop training materials based on the task lists." 2. Requirement R3 VSL - For consistency with the language in R3, ReliabilityFirst recommends the following for consideration for the first Severe VSL, "The Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner failed to provide its System Personnel with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the Bulk Electric System."

Individual

Grit Schmieder-Copeland

Pattern

No

In addition to supporting the comments submitted by NAGF SRT to R5 I am submitting the following comments: One of the major flaws from a practice point of view appears to be that the GOP shall be required to coordinate training topics with RC, BA, TO and TOP to develop training. We manage a number of assets, each registered in its own rights as GO/GOP. As a result we currently would have to contact 4 RCs, 7 TOs, 7 BAs and 10 TOPs (ISOs registered as TOP as well as the local TOP for some of the assets) to create training for one central control room and to be compliant for each assets. This makes no practical sense at all. GOP with a control room should already know what training topics need to be covered just alone by reviewing the GOP responsibilities under the standards. I also foresee that RCs, BAs and TOs and TOPs would be overwhelmed with requests. The current draft just feels a bit like "fill in the gap standards" resulting in the GOP possibly not being (fully)compliant because the GOP depends on the (qualitative good) input from a third party that may or may not be provided (regardless if the standard requires these entities to do so). As of today, we haven't made the best experience with a number of these registered entities providing the feedback we already are asking – the requirements as drafted just seems to add on to the already existing rather administrative burden of being compliant and more paperwork. In addition, if and when a GOP would not get a response (or useful response) from each of the 4 listed registered entities, the GOP is already in risk of being non-compliant position because training might be developed without the required input from at least 4 parties. Would it not result in a more consistent approach and be much more effective if the standard would already call out the required minimum training topics rather than requiring the GOP to request input from not

only one but at least 4 parties? Also, the GOP - RC interaction is rather limited (typically to emergency situation) as most of the real-time coordination takes place through the BA and TOPs. Therefore, I believe the training coordination should only take place between the parties involved where actual real-time and most of the emergency coordination takes place. In addition, I don't know many GOPs that have useful contact info for the RC other than the real-time desk. Considering the GOP - TO interaction – this standard is applicable for GOP operators located in the control room; therefore, training focuses on real-time and emergency operation. From the top of my head I don't recall any requirements for real-time or emergency operation that involves the TO, therefore, why would a GOP need to ask the TO for input on its training for control room operators?

No

I am referring to the comments provided by NAGF SRT as I am supporting the submission. In addition, the standard still leaves room for interpretation when it would truly apply to a GOP control room and when not. Ultimately, no decision is made by a GOP control room regarding the BES w/o approval from TOP/BA and ultimately the RC nor should any directive received from a RC, BA and TOP communicated from control room to plant operator be altered. Otherwise why would we need three way communications when internally operator communication would maybe develop dispatch instructions rather than relaying the instruction? Or the question becomes: what defines a "dispatch instruction" that is not relaying a directive? Also, how would a GOP prove it control room operators develop specific dispatch instructions or only relays them?

No

Because GOP control room operators typically do not make operating decisions towards the BES, but rather monitor and relay operational information to TOP/BA and indirectly RC and where the resulting actions typically require approval of any of the three registered entities anyway, it is not obvious that a standard mandated training is necessary. However, should GOP training be mandated, then the standard should call out the overall topics to allow for consistent training requirements and to avoid unnecessary administrative burden (coordination effort) or refer to the real-time and emergency operating requirements in the NERC standards for a GOP to determine the scope. (For reasons see comments to question #2 )

Individual

Kathleen Goodman

ISO New England, Inc

Agree

ISO/RTO Standards Review Committee (SRC)

Group

seattle city light

paul haase

No
Seattle finds the revised definitions of System Operator and System Personnel to add possibility of confusion in an area for which the term "System Operator" is well-defined and well-understood by industry. The term has been in long use and should not be changed for this single Standard. Seattle suggests the following change: Modify explanation of applicability to Transmission Owners as follows: (i) add new "Transmission Owner Personnel" definition (defined analogously to "Support Personnel" using information from Applicability Section 4.1.4.1, i.e. "Personnel in a transmission control center who operate a portion of the Bulk Electric System at the direction of its Transmission Operator"); delete all changes to "System Operator" definition; and delete new "System Personnel" definition entirely. (ii) change 4.1.4 to "Transmission Owner" and delete 4.1.4.1 entirely. (iii) Replace "System Personnel" with "System Operator and Transmission Owner Personnel" throughout all Requirements and Measures of PER-005-2.
No
Seattle expects to support draft PER-005-2 with two changes. The first is to revise potentially confusing definitions as discussed above (or similarly). The second is ensure that all "blue box" text included in the draft to explain and clarify the changes and intent of the Standard be preserved and formally recorded along with the Standard to ensure consistency of audit approach. It is not sufficient to retain this information in the NERC Standards Development archives, which are not easily accessible at NERC.com (there is no drop-down link to archives, for example; rather one must remember the old project number and other information to access a prior project, nor is there any promise that this important information will be retained as the archives are updated).
Individual
Mike Hirst
Cogentrix Energy Power Management
Agree
NAGF Standard's Review Team
Individual
Bret Galbraith
Seminole Electric Cooperative, Inc.
No
(1) In Requirement R4, Support Personnel are required to receive training. This Requirement and Measure read similar to the training Requirement in FAC-003-1 which is deleted from FAC-003-2 due to vagueness. Please describe how this Requirement and Measure are

different from the Requirement in FAC-003-1. (2) In the Applicability Section for Transmission Owner, we request the SDT to insert the word “significant” in front of “portion” to be in line with FERC Order No. 742. As written, any TO that operates a portion of the BES at the direction of a TOP is covered, however, it appears the intent of FERC via Order No. 742 was to only have those TOs that operated a “significant” portion of the BES. We request the term “significant” be inserted along with factors that described what is covered by a “significant” portion of the BES, i.e., please clarify the applicability for TOs. (3) In the Applicability Section for a Transmission Owner, please clarify what “transmission control center” involves. For instance, what is the lower voltage limit for transmission before it becomes distribution or are there other factors involved? (4) In the Applicability Section for a Generator Operator, please provide additional guidance on what entails a centrally located dispatch center. (5) In the Applicability Section for Generator Operator, please include the sentence from the notes that states “[p]lant operators located at the generator plant site are not required to be trained in PER-005-2.” Seminole would prefer to see this language in the Standard instead of the Guidelines Section.

Individual

Bill Temple

Northeast Utilities

Yes

Standard is unclear on the definition of "Support Personnel"

No

Clarify Support personnel. Consider the burden on training staff to complete all training documentation and whether expanding the scope of personnel that are required to participate in training directly supports reliability.

Group

DTE Electric

Kathleen Black

No

R4 - Applicability - Do not agree that GOP be included in this standard. Under rational, it states "applicability of training requirements to include operations planning and operation support staff who carry out outage planning and assessments and those who develop SOLS, IROLs, or operating nomograms for Real-time operations". Clarification is needed regarding outage planning and assessments. Is this transmission outages, distribution outages or generation outages? R4 & R5 - Why inconsistency in trianing requirements for Support Personnel and GOP? It is our opinion that GOP shall use training to establish and implement

training and get rid of "SAT based training" verbage. R5 & R5.1 - There is no periodicity in coordination - Each GOP shall coordinate with its RC, BA, TO, but how often? If the standard becomes effective, what if the GOP coordinates with RC one time and never has to do it again - what is the point - it is a waste of our time. R5.1.1 - R5.1.1 States that each RC, BA, TO and TOP shall provide input as requested by the GOP. This puts the GOP "on the hook" to make random requests or establish intervals for requests (which may leave reliability gaps between requests). After initial request (initial coordination required by R5.1), only the RC, BA, TO and TOP know when a change would occur in their areas that a GOP would need to consider for training topics. Obviously, any changes to training required by GOP side changes would be handled internally by GOP. Suggest R5.1.1 language be changed to require RC, BA, TO and TOP notify GOP of any suggested additions/changes to training topics after initial identification in R5.1 within "some reasonable time frame (30 days)."

Yes

We did appreciate your hard work on this definition - good job.

No

Please see comments suggested in Quesiton 2.

Group

Southern Company: Southern Company Services, Inc.; Alabama Power Company; Georgia Power Company; Gulf Power Company; Mississippi Power Company; Southern Company Generation; Southern Company Generation and Energy Marketing

Pamela Hunter

Yes

For the definition of "Support Personnel", we recommend replacing "Individuals" with "Operating Personnel" to emphasize that it is personnel within an operations organization that perform these tasks to support real-time operations and not be confused with individuals in planning organizations. R4 is targeted to support personnel (R4)

Southern suggests to insert "if necessary" after the word "update" in R1 part 1.1.1. The list of tasks should be reviewed, but only updated if there was a need to do so based on some change. If no changes were identified, there is not a need to update. Measure M1 does not align with Requirement 1. M1 should state the following: M1. Each Reliability Coordinator, Balancing Authority Transmission Operator, and Transmission Owner shall have available for inspection evidence of using a systematic approach to training to establish and implement a training program, as specified in R1. Measure M1.1 should be modified to incorporate our comments regarding R1.1.1 above. It should include the date of the last review and/or revision and not update. There may be instances where the list is reviewed with no changes thus not requiring an update. M1.1 should state the following: M1.1 Each Reliability Coordinator, Balancing Authority, Transmission Operator and Transmission Owner shall have available for inspection its company-specific reliability-related task list, with the date of the last review and/or revision, as specified in R1.1.

Yes

Yes
Southern suggests adding 'learning objectives' to the language in R1.2 because entities should be required to develop learning objectives and because training is tied to learning objectives. The Measure should have a corresponding change. Proposed change: R1.2. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall design and develop learning objectives and training materials based on the task list created in part 1.1 and part 1.1.1. Southern suggests rewording R1.1 to be consistent with the wording in the purpose statement; change to 'reliability related task that perform or support real time operations'. The Measure should have a corresponding change. Proposed change: 1.1. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall create a list of BES company-specific reliability related tasks that perform or support real-time operations.
Individual
Jason Snodgrass
Georgia Transmission Corporation
Georgia System Operations Corporation
Yes
The current PER-005-1 standard applies to System Operators. The new personnel being proposed (generation operator, local control center personnel, and support personnel), could be added to the current standard while leaving the current requirements and definition of System Operator in place since they are currently well defined. GTC suggest the SDT should define the local control center and applicable TO personnel or GOP personnel. This would minimize the unintended added confusion to who is defined as a System Operator if the SDT proceeds with modifying this clear definition.
Do not change the definition of "System Operator." There is no problem with it. Define "Local Control Center" as "1) a centrally located facility owned by a Transmission Owner that host operating personnel to remotely operate a portion of the Bulk Electric System at the direction of its Transmission Operator. This does not include switching stations or substations; or 2) a centrally located dispatch center of a Generator Operator that has personnel who receive direction from their Reliability Coordinator, Balancing Authority, Transmission Operator, or Transmission Owner and may develop specific dispatch instructions for plant operators under their control. Generator Operator dispatch centers with personnel who relay dispatch instructions, without making any modifications, and generator plant control rooms are excluded." Change the definition of "System Personnel" to "System Operators of a Reliability Coordinator, Transmission Operator or Balancing Authority; and Local Control Center Transmission Owner personnel. Change the definition of "Support Personnel" to "Operations Support Personnel: Operations planning and/or operation support staff, other than System Operators, who carry out outage coordination and assessments, or determine SOLs, IROLs or operating nomograms for Real-time operations. Change Applicability to 4.1. Functional Entities: 4.1.1 Reliability Coordinator 4.1.2 Balancing Authority 4.1.3 Transmission Operator

4.1.4 Transmission Owners that have Local Control Centers 4.1.5 Generator Operators that have Local Control Centers

No

The proposed definition of System Operator utilizes the pending regulatory approval definition of Control Center. The definition of Control Center states “facilities hosting operating personnel that monitor and control the Bulk Electric System in real-time to perform the reliability tasks”. The proposed definition for System Operator states “operates or directs the operation of Bulk Electric Ssystem in Real-time”. These two definitions should match relationally. FERC directed NERC to define local control center. The proposed method of NERC does not seem to address the concerns of FERC.

No

We do not support the revised PER-005-2 because of the change in definition of System Operator, the lack of a definition for a local control center, the definitions of System Personnel and Support Personnel, the applicability section, and R5. We do not support it because it is not clear and is very confusing.

Group

SERC OC Review Group

Sammy Roberts

Yes

The SDT should be commended for reviewing the Event Analysis Subcommittee report and working with the NERC EA staff to identify appropriate incidents and make the determination to omit EMS personnel. In order to further address industry concerns over the scope and applicability to GOPs and Support Personnel, the SDT is urged to halt the current standard development process to perform a similar analysis using the EAS report to properly categorize the risk level associated with GOPs and Support Personnel.

In regard to R3 part 3.1, what is the basis for the 6 month period to provide simulation technology if an entity gains operational authority or control over a Facility with an established IROL or establishes operating guides or protection systems to mitigate IROL violations? Purchasing, installing, and implementing simulator technologies for training system operators on these types of facilities would likely take longer than 6 months if for an entity that gains control over one of these facilities. Entities that gain control over these facilities should be allowed to implement enhanced training until such time that simulation technologies can be in place, not to exceed 12 months (a more reasonable timeframe). In addition, please clarify what it meant by virtual technology and other technology that replicates the operational behavior of the Bulk Electric System. Is this meant to include offline analysis of these IROL facilities with tools such as PSSE or other tools?

No

The primary concern centers on R5 and the inclusion of Generator Operator. Additionally, including “Support Personnel” in the proposed standard should be further clarified. The

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

Individual

Wayne Sipperly

New York Power Authority

Agree

Northeast Power Coordinating Council (NPCC)

Individual

Michael Moltane

ITC

Agree

SPP Standards Group

Individual

Andrew Z. Pusztai

American Transmission Company, LLC

No

The proposed language in PER-005-2 R4 is unclear regarding the relationship between the Real-time reliability-related tasks identified by an entity under R1 and the Support Personnel's job function. The proposed Support Personnel definition includes personnel performing outage coordination and assessments. Since outage coordination and current-day, next-day and seasonal assessments are not Real-time tasks (i.e. they are future time, not present time, oriented), it is unclear how the applicable entity described in R4 will identify any relationship between these Support Personnel and Real-time reliability-related tasks under R4. It would help commenters if the drafting team would provide examples of this relationship to Real-time reliability-related tasks or undertake a rewrite of R4 to bring clarity. To add clarity, ATC suggests the definition of "Support Personnel" be rewritten as: Support Personnel: Individuals who carry out, in Real-time, planned or forced outage coordination and assessments, or determine SOLs, IROLs or operating nomograms<sup>1</sup> for Real-time operations.

No

The term "directs" in the proposed definition of System Operator creates ambiguity. Directing the operation of the Bulk Electric System (BES) could be interpreted to include managerial personnel or those in a position of authority in a Control Center, for example. Another interpretation is the direct actions taken by the System Operator to monitor and control the operation of the BES, including the issuance of switching orders to field personnel or directives to System Operators in other Control Centers. The latter interpretation would seem to be captured in the term "operates" negating the need to include the term "directs" in the System Operator definition.

No
Please see the response to Question #2 for suggested changes.
Individual
Brian Shanahan
Transmission Operations
National Grid USA
No
No.
No
We support the NPCC RSC's comments on this standard and specifically offer this comment and suggested wording relative to the term "System Operator": The revised definition of "System Operator" potentially expands the applicable population subject to the Standard's training requirements to beyond what was originally intended (e.g. the System Operator). I agree that System Operators and personnel with that authority regardless of title issuing orders for changes in the state of BES Elements should be included in the definition. However, the proposed definitions lack clarity of scope. It is not clear which personnel at the Transmission Owner (TO) might be identified as System Operators. FERC Order 742 only identifies "local transmission control center operator personnel." Yet, the definition is sufficiently broad and subject to interpretation that other personnel could, inadvertently, unintentionally and unnecessarily, also be swept into the definition including: (a) downstream personnel at substations or district offices who implement directives from "local transmission control center operator personnel," but who do not initiate, monitor or control changes in the state of BES Elements, and/or (b) upstream personnel at headquarters and elsewhere who provide administrative supervision of "local transmission control center operator personnel," but who do not directly monitor or control the state of BES Elements. These individuals do not personally monitor or control changes in the state of BES Elements. Proposed Alternate Wording: System Operator: An individual at a Control Center that monitors, directs and controls the operation of the Bulk Electric System (BES) in Real-time.
No
Refer to comment provided to question #3.
Group
Puget Sound Energy
Denise Lietz
No
No
The proposed rewrite of the System Operator definition will result in a major expansion of the

people that will be considered to be System Operators because the term "operate" is so broad. For instance, Puget Sound Energy (PSE) has personnel located in its control center who remotely operate some generation units and relay dispatch instructions to other units at the direction of PSE's certified Power Dispatchers. Based on FERC's direction and the drafting team's approach, PSE understands it would be required to consider whether these operators are subject to requirement R5 of the revised standard. However, with the proposed definition of System Operator, these personnel will probably also be subject to requirement R1. The fact that R1 does not apply to the Generator Operator function probably does not help because PSE is a Balancing Authority and a Transmission Operator, so both R1 and the definition of System Personnel would apply to those personnel because they would be "System Operators of a ... Transmission Operator or Balancing Authority...". In addition, as identified in the Implementation Plan, this proposed change would affect the application of PER-003-1 and several other standards. Over time, other entities may move personnel to control centers to take advantage of the efficiencies that increased automation provides. Even if these personnel will not have independent authority to carry out tasks that affect the reliability of the BES in real-time, the proposed definition of System Operator will subject them to requirement R1 of PER-005. As a result, it seems that careful consideration of the definitions for System Operator and Control Center is advisable at this time. And, since the key to whether an operator needs training is his or her ability to independently affect the BES in real-time, the drafting team should consider defining a term "Reliability-Related Task" and then basing the System Operator definition on that term. This way the term "System Operator" would be based on the tasks assigned to a control center position and the resulting ability for the position to affect the BES in real-time.

Group

ACES Standards Collaborators

Jason Marshall

Yes

(1) In the purpose or goal section, the SAR indicates that PER-005-1 R3 was removed because it is redundant to the Systematic Approach to Training (SAT) required in R1. R3 compelled responsible entities to provide 32 hours of emergency operations training to their System Operators. Because the SAR states that R1 is redundant, is the SAR implying that the 32 hours of emergency operations training is required in R1 also or that the SAT will identify the appropriate number of hours of training that is required whether it is 32 hours, 16 hours, 64 hours or some other number? If the answer is the latter, please modify the SAR and standard to state more directly that the SAT will identify the necessary number of required training hours. Otherwise, we are concerned that auditors will interpret the new Requirement R1 to require 32 hours of emergency operations training even though a responsible entity may view that only 20 hours are necessary.

(1) We do not believe that sufficient technical justification has been provided for including Support Personnel such as operations engineers who perform next day transmission security

studies or outage coordination. We understand that NERC must comply with the FERC directive and will support them doing so but we simply do not see the technical justification for including these types of personnel. We would like to see the drafting team provide technical justification or state that there is no technical justification and include this in the compliance filing along with the necessary requirements that are responsive to the FERC directive. This will allow the technical record to stand on its own merit. (2) We disagree with the use of the phrase “that relate” in Requirement R4. It is vague, ambiguous, will lead to multiple interpretations, and will result in inconsistent application in the enforcement process. Many reliability-related tasks that System Operators or System Personnel perform will relate to a Support Personnel job function. For instance, transmission switching may result in the transmission topology change which relates to the Support Personnel’s job function. Outage coordinators will need to include such topology reconfigurations in their studies and EMS support staff will need to ensure the breaker statuses related to switching orders are telemetered into the state estimator model appropriately. Obviously, it relates to both Support Personnel positions but neither should be required to participate in training on implementing and writing switching orders unless they are actually performing those two tasks. We suggest that it would be better to implement straight forward language that clarifies that the Support Personnel have primary responsibility for performing the task. Thus, if conducting next-day transmission security studies is identified as a reliability related task and operations engineers perform that function, then the entity would be responsible for providing appropriate training that is directly related to that job function. Thus, we suggest incorporating the following language: “Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for only those specific Real-time reliability-related tasks identified by the responsible entity pursuant to Requirement R1 part 1.1 and part 1.1.1 for which Support Personnel have primary responsibility.” (3) The definition of Support Personnel should be modified as it is currently vague and could unintentionally include transmission planners. It states “Individuals who carry out... assessments” which could draw in transmission planning personnel since no time frame is associated with the assessments. The TPL standards require PC and TPs to conduct assessments of the transmission system which could be viewed as applicable assessments. There is a well-defined and FERC-approved NERC glossary term that would be more appropriate: Operational Planning Analysis (OPA). Thus, we suggest replacing “outage coordination and assessment” with OPA in the Support Personnel definition as it more appropriately applies to the near-term operation and, thus, focuses training on those tasks in a time frame with greatest reliability impact. (4) We do not see how the System Personnel definition is necessary. While the rationale box for R2 states it is necessary to capture RC, BA, TOP and TO without spelling out these terms a second time, we do not see why System Operator cannot simply replace System Personnel. The requirement is only applicable to the RC, BA, TOP, and TO so it can only apply to their System Operators. There is no need to list those entities a second time when using the System Operator definition. Ultimately, we think adding this definition will only cause confusion when System Operator is already a well defined term. (5) We suggest that R5 should be modified to require the RC to deliver the training to the GOP’s applicable personnel. All of the supporting documents (e.g. whitepaper

and Severe VSL for RC failing to provide input) and the requirement itself seem to indicate that the SDT does not believe the GOP can deliver the necessary training required in the FERC directive without the assistance of the TOP, BA, and RC. If this is the case, it would make more sense to require the RC to develop and deliver the training, and it would be unreasonable to compel the GOP to perform a task that the SDT does not believe it is capable of performing. The RCs already know what they require of the GOP and have well-established formal training programs that could easily be utilized to deliver the training to the GOP's applicable personnel. This would most likely result in lower costs to industry and would lessen the cost impacts on the end-use customers and would also result in the most reliable solution. (6) If the drafting team does not modify R5 to require the RC to deliver training, we suggest that Parts 5.1 and 5.1.1 should be modified to require the RC to provide training topics and supporting training materials for the GOP to deliver to its own personnel. (7) If the drafting team does not modify the R5 to require the RC to deliver training, Part 5.1 should be modified to describe exactly what actions are required to coordinate. Requirements that compel coordination are notoriously difficult to comply with because the meaning of coordination is ambiguous. What one person believes are reasonable efforts to comply may not be what another person believes is reasonable. Thus, this introduces too much of an opportunity to require auditor judgment that likely will not be consistent and will result in inconsistent enforcement. (8) We disagree with the inclusion of Transmission Owner into the standard. This is a registration and audit issue. If the Transmission Owner is truly carrying out TOP functions, they should be registered as a TOP. If they are carrying out delegated functions from another TOP, they could still be registered as a TOP through a CFR. Finally, if there is no CFR but only a delegation agreement, the TOP should ultimately be responsible for demonstrating compliance with the requirements including ensuring that the delegated tasks are carried out by an appropriately trained System Operator. The TOP should be able to demonstrate this by working with the TO. (9) We recommend moving the six month grace period in Part 3.1 regarding newly identified IROLs to the implementation plan and effective date/applicability sections for consistency with other standards. CIP standards have a newly identified critical asset plan that could be used as guidance. PRC-023 is another standard that has an implementation plan with applicability contingent upon something else occurring. (10) Please provide technical justification for the percentages that are used in the VSLs for R3. Why does 90 percent start the threshold for Moderate VSL and not a Lower VSL? Why use a 10 percent range for Moderate and a 20 percent range for High? (11) Please modify the first part of the Severe VSL for R3 to include "for IROLs". Simulation training is only required for IROLs and the VSLs do not reflect this important distinction. Thus, the VSL could be viewed as inconsistent with the requirement which would be contrary to the FERC Guideline 3 (from the June 19, 2008) order that the VSL cannot change the requirement. (12) The VSLs for R3, R4, and R5 are not consistent with VSLs for R1 contrary to FERC Guideline 2 (from the June 19, 2008 order). FERC Guideline 2 requires that penalty determination must be uniform and consistent. R2 has graduated VSLs based on the number of System Personnel that have been verified capable of performing the reliability related tasks. Requirement R3 deals with the capability of the System Personnel to perform newly identified reliability-related tasks, which is similar to R2 since it deals with existing reliability-related tasks. Yet, the VSLs for R3 are not

graduated based on the number of System Personnel that have been verified capable of performing the task. So while one System Personnel out of ten not verified capable of performing all existing reliability related tasks would result in a Moderate VSL for R2, the VSL for R3 would be Severe if the reliability related tasks were new (i.e. R3 applies). This would clearly result in an inconsistent outcome of penalties. R4 and R5 would have similar issues because a failure by a GOP to train one applicable employee or a failure by a RC, BA, or TOP to train one Support Personnel would be a Severe VSL. This creates an imbalanced compliance burden on smaller entities. Please provide graduated VSLs based on the number of System Operators/applicable employees similar to R2 for R3, R4, and R5. (13) VSLs for Requirement R1 and R5 are inconsistent contrary to FERC Guideline 2 which requires penalty determinations to be uniform and consistent. R5 has a VSL for failure to use SAT while R1 does not. Since SAT is required in both requirements shouldn't each requirement have a similar VSL at the same level? (14) We do not understand how failure for a TOP, BA, and TO to provide input to the GOP on their training tasks per R5 warrants a Severe violation. It does not prevent the GOP from developing and delivering the training that is required. It might make it more difficult for the GOP but does not keep the majority of the requirement from being met. At best, we believe this warrants a Lower VSL per the NERC guidelines.

No

We cannot support the modification to the System Operator definition until the impact to other applicable standards has been presented. System Operator is used in EOP-005-2, EOP-006-2, EOP-008-1, IRO-002-3, IRO-014-1, MOD-008-1, PER-003-1, PRC-004-WECC-1, and PRC-023-2. The SDT should perform an in-depth analysis and provide a written explanation for why the modifications to the definition do not impact the meaning, enforceability and compliance obligations of these other applicable standards.

No

(1) We do not support this standard at this juncture for several reasons. (2) First, we believe the standards process was not followed correctly and that this standard should not have been posted for ballot at the same time the standard was posted for comment. Based on the nomination period and representation in the materials, this standard is clearly the work of the ad hoc team and is not the work of the standards drafting team. While we understand the standards drafting team does not have to make changes to the standard proposed by the ad hoc team and that may ultimately be the case here since the majority of the SDT are the ad hoc team members, the simple reality is that there was not sufficient time for the new members to thoroughly review and agree with the standard. Furthermore, given that the nomination period did not commence until after the comment period started and the timeline posted shows a single ballot followed by the Final Ballot, it is clear the intent that that new members to the drafting team are intended to validate the work of the ad hoc team without any substantial modifications. Furthermore, the purpose statement on page 5 of the white paper clarifies the intent of the whitepaper is to provide a basis to the SDT for the pro forma standard so they can begin formal standard development. After all, the significant modifications are not allowed between a ballot and Final Ballot. (3) Second, we are concerned the quality of some of the materials posted may indicate a lack of quality in the standard.

There has been a haste to post this project and rush it through the ballot process as evidenced by the parallel initial posting of the standard for comment and ballot prior to formation of the SDT and the unrealistic posting schedule that anticipates no successive ballots (which would be very unusual). For example, PER-005-2 R1 in the mapping document does not match the standard. Which requirement is intended? We assume it is the one in the standard but cannot be sure since the mapping document is inconsistent. (4) Third, the Support Personnel definition needs modification as it is currently vague and could unintentionally include transmission planners. It states "Individuals who carry out... assessments" which could draw in transmission planning personnel since no time frame is associated with the assessments. The TPL standards require PCs and TPs to conduct assessments of the transmission system which could be viewed as applicable assessments. There is a well-defined and FERC approved glossary term that would be more appropriate: Operational Planning Analysis (OPA). Thus, we suggest the Support Personnel definition should replace "outage coordination and assessment" with OPA as it more appropriately applies on the near-term operation and, thus, focuses training on those tasks in a time frame with greatest reliability impact. (5) Fourth, the impact to other standards of the change to the definition of a System Operator has not been presented. System Operator is used in EOP-005-2, EOP-006-2, EOP-008-1, IRO-002-3, IRO-014-1, MOD-008-1, PER-003-1, PRC-004-WECC-1, and PRC-023-2. The SDT should perform an in-depth analysis and provide a written explanation for why the modifications to the definition do not impact the meaning, enforceability and compliance obligations of these standards. (6) Fifth, requirement R5 should be modified to require the RC to provide the necessary training or, at least provide the training materials to the GOP. Please see our related comments in question 2. (7) Sixth, the compliance input has not been addressed by the drafting team. While we disagree with some of the compliance input such as the suggestion to require a specific SAT, there is no documentation provided by the drafting team indicating the reason for not following this input and the compliance ramifications. (8) Thank you for the opportunity to comment.

Group

Duke Energy

Michael Lowman

Yes

Duke Energy continues to question the necessity and technical justification for expanding the currently effective PER-005-1. In fact, the NERC Events Analysis Subcommittee (EAS) reviewed existing EA reports that might point to the need of a standard for generator operators, EMS technicians, and for engineering support personnel at the request of the NERC Operating Committee (OC). Based on the EA reports in the database, the EAS and NERC EA staff concluded that training was not a root cause/driving factor in the EMS related events, and no events occurred where the generator operators or engineering support staff were involved. The fact that no events exist is a data point that a standard is not needed.

See response to Question 4

No

See response to Question 4

No

Duke Energy does not support the revised PER-005-2 for the following reasons. Before this question can be addressed, Duke Energy believes that a reliability based technical justification should be provided to the industry detailing the need for the proposed expansion of this standard. PER-005-1 is a standard that has only been in effect and enforceable for approximately 4 months, and required a 2 year phased in implementation plan. The industry has had little time to review the current PER-005-1 in order to: 1) determine whether this standard is in need of a revision; and 2) gain consensus regarding any expansion or revisions such as is being proposed. Duke Energy suggests that rather than unnecessarily expanding or revising PER-005, NERC should consider explaining to FERC why the expansion of PER-005 is no longer needed. For example, Duke Energy, as a TO with a local transmission control center, is required by the TOP to have their System Operators adhere to PER-005-1 in order to perform BES related tasks. Again, Duke Energy would like to reiterate the comment mentioned above that the NERC Events Analysis Subcommittee has performed a technical review of the reported EA submissions and has concluded that training is not a root cause factor and that additional training of Engineering Support personnel is not necessary. The current version of the PER-005 standard is very clear as to the responsibilities of a System Operator and the impact they can have on the reliability of the BES. Duke Energy believes that this expansion creates ambiguity and this ambiguity could lead to a reliability gap. Duke Energy will continue to reevaluate its position regarding this project. We look forward to working with the SDT and NERC in this effort.

Individual

Catherine Wesley

PJM Interconnection

Yes

Order 742 categorized any challenge to the scope of the proposed standard as a “collateral attack” but did say “such issues should be vetted” and “raised in comments in a future Commission proceeding”. PJM feels this is appropriate as this proposed standard assumes and mandates a training solution for job positions without any supporting data from a job and needs analysis. In doing so it conflicts with the Systematic Approach to Training Order 693 put in place. There are warnings in the DOE training references (along with references from other training industry sources) that warn against this. For instance, DOE-HDBK-1103-96, on page 5 states, “Much of today’s training has been developed based on a facility’s perceived training need rather than an analytically determined training need. Therefore, the training developed does not always address the training issue, yet training programs are developed at tremendous cost. A needs analysis can often not only limit the amount of unnecessary training developed, but also provide possible solutions to performance problems other than training. “ For these new requirements to be just and reasonable, they should be supported by data that has analytically determined the need.

PJM supports retaining a 32 hour minimum training threshold in R3. While applicable entities may exceed that level in their systematic training program, PJM believes it is important for the standard to identify minimum training hours. Without this bright line requirement, it is unclear as to how an entities continuing training program will be evaluated during an audit. PJM recommends that R4 be more prescriptive regarding who should receive the training and be based on industry analysis to determine the key positions to be included. PJM does not support R5 remaining in the standard specific to applicability to GOPs. Within the present structure of BES operations, a GOP does not make decisions regarding real time operations without the direction of their BAs and TOPs. The responsibilities and requirements for the GOPs are included in a number of standards, for example, EOP-005-2 and COM-002-2. Typically, GOPs make commercial or market based decisions. Rather than create training requirements for the few (if any) GOPs that make unilateral decisions, a requirement should be developed to prevent GOP unilateral action. Most GOPs will be faced with the task of proving a negative – that they do not take unilateral action and therefore are not subject to the training requirements.

No

The inclusion of the NERC glossary term “Control Center” in the new “System Operator” term would indirectly re-define a Generation Operator as a System Operator. This would make the new System Operator definition incorrect. Generation Operators receive and carry out “dispatch” instructions from the BA, RC, TOP’s or BES “System Operators”, but are themselves not responsible and do not have the authority to make unilateral reliability related operating decisions. Before the revised “System Operator” definition is accepted, the “Control Center” definition should be changed to remove Generation Operator.

No

While PJM supports robust training programs for all support staff, PJM does not support this standard as drafted. PJM is supportive of standards that advance safe and reliable operation of the BES and mitigate a similar occurrence happening again. PJM finds this draft standard to limit applicable entities’ flexibility to fully utilize its staff in the support functions. There will be an additional burden to provided operations training without detailed analysis that identifies training as the best solution for Support Personnel. PJM is strong supporter of the Systematic Approach to Training (SAT) which includes a detailed analysis to determine if additional training or a revision to existing training are appropriate solutions. PJM also supports the application of NERC EAS or similar data in the future that establishes the need to add support perosnnel as a mandatory requirement. This standard does not utilize this methodology to determine the specific Support Personnel for which operations training is warranted. It is not clear what is meant by “Support Personnel” in this standard. “Individuals who carry out outage coordination and assessments” could cast a very wide net and potentially include not only operations planning personnel but also system planning and markets personnel. Generalization of Support Personnel could result in training for training sake and miss a stronger corrective action such as revisions to operating procedures, policies and tools. This includes tools that provide the System Operator with, not static, but dynamically generated ratings and the ability to do real time assessments and analysis, thus making Operators less

dependent on support personnel for real time decisions. Also, the grey "Rationale box" for R4 seems to contradict the definition of Support Personnel by saying that the same reliability related task list developed for R1 for System Operators can be used for Support Personnel. Task lists developed in R1 are specific to operating positions and do not include tasks conducted by Support Personnel. PJM is supportive of excluding plant operators from applicability to this standard.

Individual

Diane Barney

New York State Department of Public Service

No

No

It is premature to be voting at all for the standard at this point in the process. Two major pieces of information are missing. First, the SAR has not been adopted, so we do not know if the proposed standard conforms to an adopted SAR. Second, the proposed standard was drafted by a small team of subject matter experts and has not yet been subject to a NERC wide critical review. Therefore, we do not yet know if there is a fatal flaw in the standard for some system(s) across NERC not represented by the SMEs, or if there is an outstanding idea to improve the draft standard.

Individual

Andrew Gallo

City of Austin dba Austin Energy

No

Austin Energy (AE) offers the following suggestions: (1) M1.4 should use the phrase "each calendar year" instead of "annual." (2) M3 and M3.1 should include language to note that the associated requirements do not apply to all RCs, BAs, TOPs and TOs, but only those "that [have] operational authority or control over Facilities with established IROLs or [have] established operating guides or protection systems to mitigate IROL violations." Adding the word "applicable" after "Each" and before "Reliability Coordinator" will help. This comment also applies to the VRFs for R3. (3) The VRF for R3.1 appears to go with Requirement R2.1. R3.1's VRF should reflect the use of simulation training within six months of gaining such operational authority. (4) R5 should not use the phrase "systematic approach to training" but instead should use language similar to R4, "shall establish and implement training." This would better match the intent stated in the Rationale box: "The Commission acknowledged that the training for GOPs need not be as extensive as training for TOPs and BAs.... This

requirement does not necessitate an SAT process that is as comprehensive as that used for TOPs, RCs and BAs.”

Yes

No

AE’s comment regarding the use of the term “systematic approach to training” in R5 prevents us from voting Affirmative. The remaining comments in Question 2 above are clean-up.

Group

FirstEnergy

Doug Hohlbaugh

No

R1 - FirstEnergy (FE) believes revisions are needed to Requirement R1 to clarify that collaborative efforts already completed by separately registered TOP and TO organizations, such as RTO/ISO organizations, may be utilized. For example, PJM (TOP) and its member TO companies have already invested a significant amount of time and resources to jointly and consistently implement a systematic approach to training (SAT) for applicable transmission operations personnel. As part of the implemented SAT, a detailed job task analysis was performed collaboratively, resulting in a common approach for the established set of reliability-related tasks. Requirement R1 should be clarified to recognize and maintain these coordinated efforts. Based on the above comments, FE recommends that text “jointly or independently” after the word “shall” in requirement R1. As revised the text would read “R1. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall independently or jointly use a systematic approach to training (SAT) ...” R5 – FE agrees with the North American Generation Forum that consideration should be given to combine R5 and R5.1 for efficiency. However, we propose a modified version of their proposal as we believe that the applicable Transmission Owner as described in the standard is not needed or appropriate for the GOP coordination described within R5. In the TOP/TO LCC format, the TOP has primary responsibility for the transmission system under its purview and provides direction to the TO and GOP connected to its system. FE believes the TOP entity is better suited to coordinate with the GOP entity in applicable training tasks it believes is needed to ensure reliable transmission system operations. Based on the above comments FE proposes the following revised text for requirement R5: “R5. Each Generator Operator shall use a systematic approach to training to establish and implement training for its personnel described in applicability section 4.1.5, including coordination with its Reliability Coordinator, Balancing Authority and Transmission Operator to identify training topics that address the impact of the decisions and actions of a Generator Operator’s personnel as it pertains to the reliability of the Bulk Electric System during normal and emergency operations.” With our proposed change, sub-requirement R5.1.1 should be renumbered to R5.1.

Yes

No
For the above reasons, FirstEnergy does not support the proposed PER-005-2 at this time. We appreciate the hard work of the drafting team and their consideration of our comments.
Group
IRC/Standards Review Committee
Gregory Campoli
Yes
<p>During the PER Industry Feedback Webinar, given by the PER Ad Hoc Group on April 4, 2013, the PER Ad Hoc Group requested Industry input on whether PER-related FERC Directives should be addressed by a New Standard, a Revised Standard or a Guideline. We have highlighted below why added or changed Standard requirements are no longer needed to address FERC’s directives. There were five FERC Directives to the ERO in Order 693: (1) Develop specific Requirements addressing the scope, content and duration appropriate for generator operator personnel – This directive should be addressed through a Generator-specific, results-based Standard on Generator performance obligation. (2) Include in PER-002-0, personnel who: (2a) carry out outage coordination and assessments in accordance with IRO-004-1 and TOP-002-2 and (2b) determine SOLs and IROLs or operating nomograms in accordance with IRO-005-1 and TOP-004-0 – since Order 693, NERC’s enforcement of the results-based Standards relating to operational reliability serve to address the Commission’s core concerns that outage coordination and IROL/SOL management be improved and are reliable. Moreover, review of the Notices of Penalties and Lessons Learned shows that the industry has not experienced repeated compliance issues with IRO-004, IRO-005, TOP-002 or TOP-004, we no longer believe this is a Reliability Risk. (3) Consider through the Reliability Standards development process, whether personnel that perform functions having an impact on the reliability of the BES, should be included in mandatory training pursuant to PER-002-0; (3b) Personnel responsible for ensuring that critical reliability applications of the EMS, such as state estimator, contingency analysis and alarm processing packages, are available, up-to-date in terms of system data and produce useable results – since Order 693, NERC’s enforcement of the results-based Standards relating to operational reliability that serve to address the Commission’s core concerns that outage coordination and IROL/SOL management be improved and are reliable. Moreover, review of the Notices of Penalties and Lessons Learned shows that the industry has not experienced repeated compliance issues with IRO-004, IRO-005, TOP-002 or TOP-004, we no longer believe this is a Reliability Risk.. Additionally, the post-Blackout initiative has sufficiently addressed any shortcomings in the support area, including implementation of Change Management structures within the real-time IT community. There were two FERC Directives to the ERO in Order 742: (1) Direct NERC to consider the necessity of developing a similar implementation plan with respect to PER-005-1, Requirement R3.1. (simulation technology) –NERC has addressed this directive, because industry and the NERC BOT considered such issues in the development and approval of PER-005 and its Implementation Plan. (2) Direct NERC to develop a definition of “local transmission control</p>

center” in the standards development project for developing the training requirements for local transmission control center operator personnel – The ERO appears to have addressed this issue through its registration and compliance monitoring programs. Through both programs, the ERO has assessed the role different Transmission companies play in BES operations and if or how they need to be trained. Given the different approaches registered entities take in registering as Transmission Operators, if more is needed here, a good first step would be to draft an operating guideline. We have captured the relevant Blackout “Recommendations,” “Causes” and “Other Deficiencies,” as published on NERC’s website. Following each is a dispensation. In addition, and of note, in October 2003, before the Task Force had issued its reports, NERC requested CEOs of all Reliability Coordinators and Control Areas to initiate organizational self-assessments and certify that their organizations were in compliance with NERC and regional reliability council standards and good utility practices. This request focused in particular on problem areas identified in preliminary findings from the Blackout investigation. From [http://www.nerc.com/docs/docs/blackout/Report\\_to\\_US-Can\\_TF\\_on\\_Status\\_of\\_Blackout\\_Recommendations-071405.pdf](http://www.nerc.com/docs/docs/blackout/Report_to_US-Can_TF_on_Status_of_Blackout_Recommendations-071405.pdf) “Status of August 2003 Blackout Recommendations” dated July 14, 2005 Recommendation 5. Track implementation of recommended actions to improve reliability. • Completed in 2005. Recommendation 18. Support and strengthen NERC’s Reliability Readiness Audit Program. • NERC clarified the standards defining Reliability Coordinator (RC) and Control Area functions, responsibilities, capabilities, and authorities. NERC conducted Readiness Audits on all RC, CA entities. Recommendation 19. Improve near-term and long-term training and certification requirements for operators, reliability coordinators, and operator support staff. • With respect to Recommendation 19.A, NERC addressed this requirement for training of “back room” personnel through its organization certification standards. Recommendation 22. Evaluate and adopt better real-time tools for operators and reliability coordinators. • NERC created a Real-time Tools Best Practices Task Force (RTBPTF) to identify best practices for building and maintaining real-time networks, and develop guidelines based on these practices. This Task Force presented recommendations in 2005 for specific, auditable requirements for inclusion in new standards concerning real-time tools for operators. From <http://www.nerc.com/docs/docs/blackout/section5.pdf> “August 14, 2003, Blackout, Final NERC Report, Section V, Conclusions and Recommendations” Causes Cause 1a: FE had no alarm failure detection system. Cause 1b: FE computer support staff did not effectively communicate the loss of alarm functionality to the FE system operators after the alarm processor failed at 14:14, nor did they have a formal procedure to do so. • Cause 1a and 1b have been addressed by incorporating detection tools and having such capability confirmed during Readiness Audits. Cause 1c: FE control center computer support staff did not fully test the functionality of applications, including the alarm processor, after a server failover and restore. Cause 1d: FE operators did not have an effective alternative to easily visualize the overall conditions of the system once the alarm processor failed. Cause 3a: MISO was using non-real-time information to monitor real-time operations in its area of responsibility. Cause 3b: MISO did not have real-time topology information for critical lines mapped into its state estimator. • Causes 1c, 1d, 3a and 3b have been addressed by adopting the Real-Time Tools Best Practices Task Force (<http://www.nerc.com/filez/rtbptf.html>) recommendations and

confirming such during Readiness Audits. Other Deficiencies Problems identified in studies of prior large-scale blackouts were repeated on August 14, including deficiencies in vegetation management, operator training, and tools to help operators better visualize system conditions. Reliability coordinators and control areas have adopted differing interpretations of the functions, responsibilities, authorities, and capabilities needed to operate a reliable power system. FE did not have the ability to transfer control of its power system to an alternate center or authority during system emergencies. FE operational planning and system planning studies were not sufficiently comprehensive to ensure reliability because they did not include a full range of sensitivity studies based on the 2003 Summer Base Case. FE did not perform adequate hour-ahead operations planning studies after Eastlake 5 tripped off-line at 13:31 to ensure that FE could maintain a 30-minute response capability for the next contingency. FE did not perform adequate day-ahead operations planning studies to ensure that FE had adequate resources to return the system to within contingency limits following the possible loss of their largest unit, Perry 1. MISO did not have additional monitoring tools that provided high-level visualization of the system. • The other Deficiencies have been addressed through (1) individual entities' mitigation plan completion and confirmation thereof by NERC and FERC; (2) Implementing the Readiness Audits (pre-enforcement) for organizational certification; and (3) Adopting and enforcement of NERC Reliability Standards (post-enforcement). It should be noted that ERCOT does not support this comment, and any subsequent comments that reference this comment.

a) There appears to be an inconsistency between the definition of Support Personnel and Requirement R4, or an unclear definition or an unclear requirement or both as it relates to Real-time reliability-related tasks. The proposed definition of Support Personnel is: Individuals who carry out outage coordination and assessments, or determine SOLs, IROLs or operating nomograms for Real-time operations. This definition clearly indicates that these personnel do not perform any Real-time tasks, although their tasks produce results that are applied in Real-time operations. R4 stipulates that: Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for Support Personnel specific to those Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1 that relate to the Support Personnel's job function. R4 is unclear as to whether or not the Responsible Entities need to establish and implement training of Support Staff on Real-time tasks. If R4 means tasks that are related to Real-time reliability, then outage coordination and assessment and determination of SOLs, IROLs, etc. will certainly meet such criteria and therefore the Support Personnel will need to be trained on the "related" Real-time task. However, such an interpretation will mean that almost every task in a Control Centre is related to Real-time operation. The question becomes: who exactly are the Support Personnel that need to be trained? If only those personnel that perform tasks as indicated in the definition, then why would they need to be trained on Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1, and what will does it mean by "that related to the Support Personnel's job function"? The above questions and interpretations reflect that Requirement R4 and its relation to the definition of Support Personnel are unclear. As written, Responsible Entities will not have a clear understanding of what their obligations are with respect to the

who to train and the topics to be including in the training program for Support Staff. Much clarity is needed in Requirement R4 or the proposed definition for Support Personnel or both. We are unable to suggest any specific wording to clarify the definition for Support Personnel and/or Requirement R4 since we do not know what the objective (the kind of training) the SDT has in mind when it comes to providing training to the Support Personnel. b) Intuitively, we have difficulty understanding the basis for assigning a Long-Term Planning Time Horizon to the five requirements of a standard that addresses training for operating personnel and support personnel. As suggested by a number of requirements in the standard, training is delivered at least annually, if not more frequently, and the training program needs to be reviewed and revised once a year. This is much shorter than the Long-term Planning time frame. The intent of the Time Horizon is to indicate the general time frame to correct a non-compliance with a requirement. We do not see how a non-compliance of any of the requirements should wait for more than a year to mitigate, in view of the time frame stipulated in the requirements. We suggest to change the Time Horizons to Operations Planning.

Yes

We support the change, however, we believe Control Center definition should also be changed to make it more consistent with the revised definition of System Operator.

No

We support the elimination of the 32 hours of Emergency Operations training. However, we are unable to support this standard as presented, for the reason as cited in Comment (a) under Question 1 and 2, above. In addition, there is an inconsistency between the VSLs for R1 and R5. Both R1 and R5 require that the Responsible Entity use a systematic approach to training to develop a training program (note that in R5, it's training only, not a training program) for their personnel. The VSL for R1 does not have a level for failure to demonstrate that the Responsible used the SAT to develop the training program. However, a Responsible Entity is assigned a High VSL for failing to use a systematic approach to training to establish training requirements as defined in Requirement R5. The two VSL sets should be consistent with respect to the requirement for using SAT. We suggest the SDT to revise the VSL for R1 to include this violation condition.

Group

Santee Cooper

S. Tom Abrams

Santee Cooper votes negative based on the proposed changes to PER-005-2 requirement R4 "Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for Support Personnel specific to those Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1 that relate to the Support Personnel's job function." The current version of PER-005 R1.1 requires each Reliability Coordinator, Balancing Authority, Transmission Operator to

create a list of BES company-specific reliability-related tasks performed by its System Operators, not the Support Personnel. We feel that these tasks are not applicable to the Support Personnel because the list is solely focused on the System Controller position. Santee Cooper also feels that while the Support Personnel may perform tasks that support our System Controllers they are not done in real-time; they are done for the day-ahead and ultimately the System Controllers, make the final decisions for all real-time operations. Therefore decisions from day-ahead studies performed by Support Personnel do not have an impact on real time operations.

Individual

Sergio Banuelos

Tri-State Generation and Transmission Association, Inc.

No

Requirement 1.3 states training shall be delivered to System Personnel. We believe System Operator should be added, and prefer it be used in place of the new term System Personnel. In requirement 4 the Support Personnel's job function should clearly identify the actual training needs for tasks associated with Real-time Reliability Related tasks. The requirement should not obligate Support Personnel to meet the same criteria as the System Operator. Currently the ad hoc group has some useful rationale for Generator Operator under 4.1.5. However, once the standard gets approved the rationale box will be removed and the applicability to plant operators will not be clear. Therefore Tri-State requests that the last sentence from the "Rationale for Generator Operator" box stating "Plant operators located at the generator plant site are not required to be trained in PER-005-2" should be added as the last sentence in the Applicability Section 4.1.5.1.

Yes

No

We do not believe the new defined term "System Personnel" is needed. Maintaining the System Operator definition is adequate. When the term "System Operator" is used within PER-005-2, it is used in the "System Personnel" definition that is defined for use only within PER-005-2 which is not intended to be a NERC Glossary definition. Within the "System Personnel" definition, "System Operators" are limited to those from entities that are RCs, TOPs, BAs, and TOs. GOPs are not listed, and therefore are excluded as it is written. The PER team did not make it clear whether GOPs are going to be included in the proposed "System Personnel" definition. Support Personnel needs to be defined more clearly and in more detail. We question the need to extend the applicability of the standard to Transmission Owners. Local transmission control centers that operate portions of the BES meet the definition of a System Operator, therefore meeting the conditions required to register as a Transmission

Operator.
Group
APPA Staff
Allen Mosher
No
No
<p>APPA agrees with the intent of the Commission’s directives in Order No. 742 that the ERO develop formal training requirements for local transmission control center operator personnel that exercise control over a significant portion of the Bulk-Power System under the supervision of the personnel of the registered transmission operator. However, the Commission’s directive appears to be targeted at ensuring proper training of system operators that are employed by large TOs that operate under the direction of RTOs and other large TOP entities. These large TOPs direct the real time operation of the BES within their regional footprints by sending instructions to Transmission Owner control center personnel. TO control center operators then execute these directives for elements within their local areas. APPA staff’s review of the NERC Compliance Registry as of September 3, 2013, indicates that there are 176 entities registered as Transmission Owners that are NOT also registered as Transmission Operators. These non-TOP Transmission Owners are widely distributed across all NERC regions. These non-TOP TOs are not confined to areas within RTOs that perform the RC, BA and TOP functions for large footprints. The breakdown by regions is as follows: FRCC-8, MRO-19, NPCC-22, RFC-25, SERC–28, SPP-26, TRE-16, WECC-32. APPA is concerned that the Applicability section of the draft standard could be read to make the proposed Requirements R1, R2, R3, and R4 applicable to many and potentially all 176 non-TOP Transmission Owners that have either (a) multi-function control centers (e.g., distribution control centers that also control limited BES transmission elements used primarily to serve load) or (b) small transmission control centers with only limited capabilities that are commensurate with the limited BES elements they operate. Transmission control center is not a defined term. Also, it is possible that only intermittent or occasional directions by the Transmission Operator to a small Transmission Owner might be deemed to have triggered the Applicability of PER-005. 4.1.4 Transmission Owner that has: ... 4.1.4.1 Personnel in a transmission control center who operate a portion of the Bulk Electric System at the direction of its Transmission Operator. Thus, it is critically important that the SDT’s proposed language addressing Applicability be crystal clear as to which TOs are subject to the proposed standard.</p>
Group
NAGF Standards Review Team
Patrick Brown

1. The SRT believes R5 and R5.1 should be combined for efficiency. The SRT recommends the language for R5 be changed to: "Each GOP shall establish and implement training for its personnel described in Applicability Section 4.1.5 which includes coordinating with its RC, BA, TOP, and TO to identify training topics that address the impact of the decision and actions of a GOP's personnel as it pertains to the reliability of the BES during normal and emergency operations." 2. R5.1.1 should be a separate R6 since it stipulates requirements for those other than the GOP. The SRT recommends the language for this new R6 be: "Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall provide input to a Generator Operator's training program established under R5 as requested by the Generator Operator."

No

We have several concerns with the revision to the defined term "System Operator" to replace the current NERC Glossary term. 1. The revised System Operator definition incorporates the "Control Center" definition that is embodied in the CIP v5 filing in Docket No. RM13-5-000 and which is under consideration at this time by FERC: "Control Center: One or more facilities hosting operating personnel that monitor and control the Bulk Electric System (BES) in real-time to perform the reliability tasks, including their associated data centers, of: 1) a Reliability Coordinator, 2) a Balancing Authority, 3) a Transmission Operator for transmission Facilities at two or more locations, or 4) a Generator Operator for generation Facilities at two or more locations." In Paragraph 80 of its NOPR issued in the CIP v5 docket, FERC asked whether the phrase "generation Facilities at two or more locations" intended to include two or more units at one generation plant and/or two or more geographically dispersed units. Therefore, whether this definition will be remanded for further clarification is undetermined at this time. 2. In addition, when the term "System Operator" is used within PER-005-2, it is used in the "System Personnel" definition that is only used within PER-005-2 (i.e., it will not be a NERC Glossary term and will only be used within PER-005-2). Within the System Personnel definition, System Operators are limited to "System Operators of a Reliability Coordinator, Transmission Operator, or Balancing Authority:" Generator Operators, even those GOPs that are subject to the applicability of PER-005-2, are excluded. 3. Furthermore, while the existing System Operator definition uses the language "monitor and control," that language is replaced with the phrase "operates or directs the operation" in the proposed new definition. Whether GOPs are intended to be included in the new System Operator definition has not been made clear by the PER team. 4. The standard begins by defining the terms System Operator, System Personnel and Support Personnel, but then applies for GOPs only the word "personnel." It is not clear whether or not this differentiation was intentional, particularly since Applicability para. 4.1.5 appears to describe GOP dispatchers who are System Operators. It would seem in this case, though, that they should have been included in the System Personnel definition.

No

Because if the issues above, we cannot support PER-005-2 until the proposed definition of "System Operator" is withdrawn or until the PER team revises it to specifically include only

Reliability Coordinators, Transmission Operators, and Balancing Authorities.
Group
SPP Standards Review Group
Robert Rhodes
Yes
We have some concern regarding what appears to be creep in scope associated with personnel training in PER-005-2. We are concerned that as this scope continues to expand and include non-certified personnel on the fringes of the functionality of the operating desk, maintaining compliance with the standard could become a burdensome task to the industry as well as create an equally increased risk of non-compliance for an issue that has very little impact on the reliability of the BES. While we realize that the drafting team has attempted to address issues directed by FERC, perhaps there is an alternative solution to the proposed standard as the team found with the inquiry into including EMS support personnel in the standard.
The 6-month lead-time for simulator training in R3 may not be adequate depending upon whether the entity has access to a simulator. Unless the entity has its own simulator, the simulation provided would be of a generic nature. To obtain more customized, specific simulator training may require acquisition of a simulator and providing for staff to develop and implement simulator training. This would require much more than 6-months lead-time for many entities due to budgetary constraints as well as staffin and acquisition processes. We are also concerned with the openness of the 'relate to' phrase in R4 and would suggest the following replacement for R4: Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for Support Personnel who perform Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1.
Yes
No
Please refer to our comments in Questions 1 and 2 above.
Group
Western Area Power Administration
Lloyd A. Linke
Agree
US Bureau of Reclamation.

Additional comments received from SMUD:

1. Do you have any specific questions or comments relating to the scope of the proposed standard action or any component of the SAR outside of the pro forma standard?

- Yes  
 No

Comments:

2. Please specify if you have comments or proposed changes to any of the Requirements of the pro forma standard. SEE BELOW:

Comments:

3. Do you support the revised NERC Glossary Term System Operator? If no, please indicate in the comment section what suggested changes would put you in favor of the new glossary term.

- Yes  
 No

Comments: To avoid any confusion or misapplications we suggest that the definitions of "System Personnel" and "Support Personnel" be included in the NERC Glossary of Terms to provide consistency and standard usage.

4. Do you support the revised PER-005-2 standard? If no, please indicate in the comment section what suggested changes would put you in favor of the new revised standard.

- Yes  
 No

Comments:

The blue text box "Rationale" statements includes language that excludes generator plant site operators from the training requirements. This exclusion should be reflected in the Applicability Section to make it clear that "Plant operators located at the local generator plant site who receive dispatch instructions from the GOP of a centrally located dispatch center are excluded".

We believe the following concepts should be included in the Requirement R4:

1. R4 should be consistent with Requirement R3.1. by specifying the training intervals and frequency required for support personnel; and, by specifying that similar training protocols be established for new support personnel.

2. For consistency, R4 should stipulate that training be provided for support personnel as well as System Operators within 6 months of implementing Reliability-related tasks and/or procedures that have changed.
3. Please provide clarifying language that specifies that Requirement R1 applies to developing and implementing a training program that addresses the subset of real-time Reliability-related tasks, as opposed to the entire scope of the support personnel job function.

Additional comments received from Xcel:

## Question

1. Do you have any specific questions or comments relating to the scope of the proposed standard action or any component of the SAR outside of the pro forma standard?

Yes

No

Comments: **NONE**

2. Please specify if you have comments or proposed changes to any of the Requirements of the pro forma standard.

Comments:

1) Support Personnel definition: suggest enhancing the definition to clarify which assessments (and individuals who perform them) are subject to this. Suggest the following language for Support Personnel:

“Individuals who carry out outage coordination, outage assessments, or determine SOLs, IROLs or operating nomograms<sup>1</sup> used in the Real-time operation of the Bulk Electric System”.

2) capitalize “Control Center” throughout the standard

3) the description of the Functional Entities for Transmission Owner and Generator Operator seems overly complicated. We recommend that be simplified. For example, would “Transmission Owner that has System Operators” suffice?

4) R3: recommend modifying the requirement to say “ ...shall provide its System Personnel with **IROL** emergency operations training...” to indicate the training requirement is limited to the IROL.

5) R4: what is meant by “pursuant to R1 Part 1.1...”? Restate those requirements here if needed, to eliminate confusion. It is also not clear if there is a minimum training quantity/frequency for Support Personnel or is it established by the entity.

6) R4: As written, there is confusion between the definition for Support Personnel and what training is required for them in Requirement 4. Most utilities have defined “real-time” as occurring within the moment, the next hour, or within an operating day. The tasks identified in the definition for Support Personnel are all planning tasks that are not considered “real-time” functions. For example, the development of SOLs and IROLs is a long-term process that is done on a day-ahead basis at the soonest and more likely on a seasonal basis. Moreover, requirement R4 refers to training of Support Personnel specific to those Real-time reliability-related tasks identified in the initial System Operator task lists which were created to comply with R1. These initial task lists do not include any of the tasks provided in the definition of Support Personnel.

This confusion is amplified by the use of ambiguous and contradictory terminology in Requirement 4. The rationale for R4 suggests entities select the “real-time” reliability related tasks that Support Personnel conduct. From this perspective, there would be no training required of Support Personnel since they don’t conduct any real-time tasks. This is unlikely the intent because the SDT wouldn’t have included a Requirement that basically tells the entity to do nothing. The language in the Requirement 4 states to implement training specific to real-time reliability-tasks that “relate to the Support Personnel’s job function”. This is in direct conflict with the rationale statement because now it opens up required training to Support Personnel on tasks that are not currently included in the real-time reliability-related tasks. Given this contradiction, it leaves the entities wondering what the SDT is expecting. The rationale statement for R4 says one thing and the R4 requirement says almost the complete opposite.

If the intent of R4 is to mandate training of real-time reliability-related tasks to Support Personnel on those tasks for which they support so that they better understand the real-time operational task; I do not believe this is necessary and think there are better ways to accomplish this goal. Xcel Energy is not against conducting training for its operations support personnel, but it wants to ensure required training has added value in furthering the reliability of the bulk electric system. In many cases, Xcel Energy’s operational Support Personnel is providing guidance used to formulate the real-time reliability-related tasks that operators are then trained on. By mandating training to Support Personnel on those same tasks, this standard is asking entities to train their Support Personnel on tasks that they were directly involved in helping to develop. As such, they already have a solid understanding of the task and any training would be unnecessary review of information that they already know. Therefore, there is little benefit in requiring this training be conducted. Further, Xcel Energy encourages Support Personnel to engage with the real-time operators when performing their job function to ensure that they understand the real-time operational impact of their work. In addition, Xcel Energy has an operator acceptance process on any new or revised real-time reliability-related task that allows them to provide feedback to Support Personnel which opens a dialogue between operators and Support Personnel so that Support Personnel better understand the operational impact of said task. I believe this is a more effective way to ensure Support Personnel understand the real-time tasks and further the reliability of the BES than mandated training.

For example, PER-005-2 suggests that Support Personnel be trained on the real-time reliability task of managing power flows and voltages within their SOLs and mitigating SOL exceedances. Support Personnel determine the SOLs as required by TOP Standards. However, in addition, Support Personnel develop guidance for how to mitigate exceedances of those SOLs and provide that guidance to operators in the form of operating guides or operating procedures. The guides and procedures are then reviewed by the operators to ensure they are viable in the real-time operation of the system. By determining SOL mitigation guidance, Support Personnel are directly involved in the real-time reliability-task that PER-005-2 is requiring they be trained on.

7) R5: Please clarify if there is a required quantity/frequency for the training and coordination with entities or if that is intended to be established by the entity.

8) R5.1: how does each GOP identify “its” TOP and TO? Is there a mapping or hierarchy of GOPs to TOPs and TOs?

3. Do you support the revised NERC Glossary Term System Operator? If no, please indicate in the comment section what suggested changes would put you in favor of the new glossary term.

Yes

No

Comments: **None.**

4. Do you support the revised PER-005-2 standard? If no, please indicate in the comment section what suggested changes would put you in favor of the new revised standard.

Yes

No

Comments: **See comments provided above.**