

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

	)	
System Personnel Training	)	Docket No. RM09-25-000
Reliability Standards	)	
	)	

COMMENTS OF THE ISO/RTO COUNCIL

The ISO/RTO Council ("IRC")¹ respectfully submits these joint comments in response to the Commission's Notice of Proposed Rulemaking ("NOPR") issued on June 17, 2010 in which the Federal Energy Regulatory Commission ("Commission") proposes to approve Reliability Standards PER-005-1 (System Personnel Training) and PER-004-2 (Reliability Coordination-Staffing). In addition, the Commission proposes to direct NERC to develop certain modifications to proposed Reliability Standard PER-005-1 to address certain issues identified by the Commission. The proposed Reliability Standards require Transmission Operators, Balancing Authorities, and Reliability Coordinators to establish a training program for their system operators, verify each of

¹ The IRC is comprised of the Alberta Electric System Operator ("AESO"), the California Independent System Operator ("CAISO"), Electric Reliability Council of Texas ("ERCOT"), the Independent Electricity System Operator of Ontario, Inc., ("IESO"), ISO New England, Inc. ("ISONE"), Midwest Independent Transmission System Operator, Inc., ("Midwest ISO"), New York Independent System Operator, Inc. ("NYISO"), PJM Interconnection, L.L.C. ("PJM"), Southwest Power Pool, Inc. ("SPP"), and New Brunswick System Operator ("NBSO"). The IESO, AESO and NBSO are not subject to the Commission's jurisdiction and these comments do not constitute agreement or acknowledgement that they can be subject to the Commission's jurisdiction. The IRC's mission is to work collaboratively to develop effective processes, tools and standard methods for improving the competitive electricity markets across North America. In fulfilling this mission, it is the IRC's goal to provide a perspective that balances reliability standards with market practices so that each complements the other, thereby resulting in efficient, robust markets that provide competitive and reliable service to customers.

their operator's capability to perform tasks, and provide emergency operations training to every system operator.

I. COMMENTS

A. Effective Date Of The Proposed Reliability Standards

NERC proposes concurrently to retire currently effective Reliability Standards PER-002-0 and PER-004-1 upon the effective date of PER-004-02 and PER-005-1. The Commission seeks comment on the feasibility of the proposed effective dates and retirement dates proposed by NERC.

The IRC estimates a minimum implementation time of two years would be reasonable. However, the IRC submits that the effective dates should be tied to the specific provisions of the Reliability Standards that the Commission ultimately approves. For example, if the Commission directs NERC to require that entities have simulator training for their operators that replicates their specific systems, this may involve significant development time as the process for procuring and implementing a training simulator varies from one responsible entity to another. The IRC suggests FERC direct NERC to either survey the industry or to hold a technical conference to collect feedback from the industry to develop a target date that most responsible entities can meet.

B. Timeframe For Modifying PER-005-1

In Paragraph 22, the Commission seeks comment on the timeframe for NERC to modify PER-005-1 to fully respond to the Commission's directives in Order No. 693.

The IRC believes the currently-filed Reliability Standards adequately address the

core reliability deficiencies identified in both the Blackout Report and Order 693. Accordingly, the IRC requests that the Commission take a step back in ordering modifications to the filed-standards so that (1) the most significant reliability issues may be properly addressed through the Standards development process, (2) more consistency can be achieved in the Standards and their enforcement, and (3) administrative requirements can be eliminated in favor of those that promote and enhance reliability. We believe the Commission should defer to NERC with respect to the Standards development process schedule unless a critical risk to the Bulk Electric System (BES) has been identified and needs to be addressed expeditiously.

C. The Meaning Of The Requirement To Have “A Comprehensive Understanding Of The Reliability Coordinator Area”

In Paragraph 28, the Commission notes NERC’s suggestion that Requirements R1 and R2 of Proposed Reliability Standard PER-005-1 retain an obligation for Reliability Coordinator personnel to have a comprehensive understanding of the Reliability Coordinator Area and interactions with neighboring Reliability Coordinator Areas, and entities that fail to do so could be subject to an enforcement action. The Commission seeks an explanation whether “a comprehensive understanding of the reliability coordinator area” is an enforceable requirement under proposed Reliability Standard PER-005-1 and whether this requirement is clear or should be more explicit.

The IRC does not believe that the term “comprehensive understanding” is an enforceable requirement because the term is applied to ad hoc local environments and facilities that require customized skills not consistently measureable on either a

continent-wide or a reliability-area-by-reliability-area basis. The concept of a “comprehensive understanding” is extracted from NERC Policies, which were issued originally as generic guidelines. The translation from the Policies into mandatory and enforceable standards is, regrettably, replete with such examples that were never envisioned to be used as measured standards. The IRC supports requirements that are both clear and measureable, and which eliminate the subjectivity involved with the phrases such as “comprehensive understanding”.

The IRC believes that the systematic approach to training (“SAT”), as required by the newly drafted Standard, adequately addresses the Commission's concerns. As explained by NERC, the SAT program requires a company to identify specific training requirements for its System Operators which would depend on the individual's job requirements, responsibility and the company-specific reliability based tasks. An individual System Operator's competency to perform the tasks documented for their assigned operating position will be evaluated at stages through to the completion of the training program, with remedial courses identified and implemented along the way as necessary to achieve full competency. The IRC believes that company-specific programs using SAT will be more focused, more detailed and more likely to provide the desired reliability objective without the need to have an explicit requirement in the Standard to address “comprehensive understanding”.

D. Whether The “Continuing Training” Requirement Of PER-005-1 Is An Enforceable Requirement

The Commission interprets NERC's systematic approach to training as retaining

an obligation of “continuing training” and that entities that fail to do so could be subject to an enforcement action. In Paragraph 29, the Commission seeks an explanation from NERC, and comments from the general public, whether continuing training is an enforceable requirement under proposed Reliability Standard PER-005-1 and whether this requirement is clear or should be more explicit.

The IRC believes that PER-005-1, as filed, is superior to the previous requirements regarding continual training and will assure that System Operators will be trained continually. Requirement 2.1² in PER-005 encompasses both concepts of “updated and continual training” in an enforceable and measurable manner. PER-005-1 R1 and its sub-requirements collectively require the Balancing Authority, Transmission Operator, and Reliability Coordinator to identify reliability-related tasks performed by its System Operators, update that list periodically, and adjust training based on the updated reliability-related task list. Correspondingly, PER-005-1 R2.1 requires the Balancing Authority, Transmission Operator, and Reliability Coordinator to verify that its System Operators can perform the new or modified reliability-related tasks. Thus, continuing training will be easily measured and enforced under the proposed standard. As such, the IRC believes the standard is clear and does not need to be any more explicit.

² PER-005-1, Requirement 2.1: “Within six months of a modification of the BES company-specific reliability-related tasks, each Reliability Coordinator, Balancing Authority and Transmission Operator shall verify each of its System Operator’s capabilities to perform the new or modified tasks.”

E. Staff Training Requirements

In Paragraph 29, the Commission seeks clarification as to how and whether the systematic approach to training requires training staff to be identified, and, if not, the mechanism by which training staff will be identified and its competency ensured. The Commission also seeks comment whether this should be made explicit so that entities clearly understand their compliance obligations.

The SAT neither requires training staff to be identified nor their competency ensured. The IRC believes that a requirement for identifying training staff would stifle some approaches to training (*e.g. using subject matter experts (either in-house or external)* to train operators on device-specific characteristics or hiring a vendor trainer to provide training on new operational tools). The IRC believes the filed PER-005-1 standard is robust, reliability-oriented, and meets the need for the training of System Operators to acquire the needed competency. Further, a standard to ensure trainers' competency does not provide the assurance of the successful development and the effectiveness of the training program to provide System Operators with the needed competency to perform the assigned tasks. This effectiveness of the training program can only be based on assessing the System Operators' ability to perform the assigned tasks (i.e., PER-005-1 R2)³.

³ PER-005-1, requirement 2: "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall verify each of its System Operator's capabilities to perform each assigned task identified in R1.1 at least one time."

F. Training Expectations For Each Job Function

In Paragraph 32, the Commission states that the systematic approach to training methodology, as proposed in Reliability Standard PER-005-1, satisfies the Commission directive to develop a modification that identifies the expectations of the training for each job function and develops training programs tailored to each job function with consideration of the individual training needs of the personnel. The Commission also indicates its understanding that Requirement R1.2 of proposed Reliability Standard PER-005-1 requires that the learning objectives and training materials be developed with consideration of the individual needs of each System Operator. The Commission seeks comments on this understanding.

The IRC contends that PER-005-1 addresses function/task-specific training and not person-specific training or personal development to achieve, for example, a career path. Hence, with respect to Requirement R1.2, we interpret the Commission's statement that "*...requires that the learning objectives and training materials be developed with consideration of the individual needs of each operator....*" to address the knowledge and skill gaps of individual System Operators with respect to the reliability tasks they are expected to perform. If the Commission does not agree with this contention, then the IRC asks the Commission for further clarification of the Commission's understanding of the requirement. The IRC supports maintaining the term *systematic approach to training* (in lower case) as used in the Standard because the lower case term provides registered entities flexibility in complying with the Standard. The IRC believes that the PER-005-1 requirements properly define a systematic

approach to training that will allow each entity to identify and fulfill the individual needs of each System Operator.

G. Simulation Training

In Paragraphs 36, 37 and 39, the Commission questions whether the Reliability Standard should require the simulation technology to realistically replicate an entity's own topology and operating conditions. The Commission seeks comment on the feasibility and practicality (including cost considerations) of requiring use of simulation technology that realistically replicates the entity's own topology and operating conditions.

The IRC believes the Reliability Standard appropriately leaves the type of training to be provided up to the individual reliability entities, with the exception of the specific requirement 3.1 regarding Limit Adherence. The IRC supports the Standard as filed by NERC.

The IRC supports requirements that mandate WHAT to do (*i.e.*, the outcome), without prescriptive elements of HOW to accomplish said requirement. By focusing on specific topologic replications, the Commission's proposal appears to be in the form of the latter. Although the IRC understands the stated arguments, there are many topics where training can be provided using generic - even non-simulator/electronic - media. The IRC would emphasize that satisfying the training need is what should be covered in standards, and that specific method designation (whether specific simulator, or generic simulator, or through non-simulator means) should be left to the discretion of the

training entity. One example is ACE calculation and frequency deviation/response. These concepts are not "system specific" or based on topological differences as the Commission suggests. Textbooks and training manuals are an important component of operator training, as would be training on another entity's simulator as available. Too detailed specification of how to meet the requirements may lead to incurring unreasonable costs for specific simulator capabilities that do not provide commensurate benefits, and should not be dictated in a Standard.

The IRC also notes that the NOPR uses unclear terms in its discussion of simulator training. For example, the NOPR's use of the terms "system-customized simulator", "realistic simulations"; "simulator specific to one's own region" are arguably subjective without more consistent descriptors. So, while the IRC continues to assert this should be left to the discretion of the entity providing training, if it is to be included in the Standard, minimally the terms used should be clear, unambiguous and promote common understanding.

With regard to the Commission's inquiry about the use of generic simulators, the IRC believes that for the purposes of a continent-wide standard, generic simulations are acceptable. Simulations are a continuing evolving technology. Some models work "better" than others (*i.e.* the models produce reasonable results – but not perfect results). Thus, to mandate a perfect (*i.e.* realistic) simulator for each reliability coordinator and transmission operator is unachievable.

The IRC is supportive of the use of simulation technology as written in the NERC-filed standard, but is concerned with the practicality and significant cost

associated with a requirement that could potentially require all Reliability Coordinators, Balancing Authorities, and Transmission Operators to acquire and maintain simulators that replicate the entity's own topology and operating conditions. The industry needs the flexibility to train with tools that are available to meet the intent of the standard.

H. Local Transmission Control Center Operator Personnel

In Paragraphs 40 and 42, the Commission proposes to direct NERC to modify proposed Reliability Standard PER-005-1 to include a provision that explicitly addresses training for local transmission control center personnel, consistent with the Commission's directive in Order No. 693.

The Commission approved the concept of registering companies as Functional Entities, writing standards to those entities, and writing clear, unambiguous requirements. The Commission's intended use of the term "local control center" is unclear and this portion of the NOPR is further unclear as to which registered entity the proposed requirement should apply. Transmission Operators have an existing training requirement for operators. There is no common definition of "local control center", nor does the term exist in the NERC Glossary, or other authoritative documents, which would lend to a common understanding. The term does not appear to apply to Transmission Operators (given that training requirements exist and this appears to be a proposal for new training requirements), yet the Commission is addressing transmission requirements, but again, this is unclear. Thus, there is concern for the use of the term "local control center" without clear distinction what the scope of operations is involved, what authority a local control center operator would have, what knowledge skills and

abilities are required, and to which established functional entity such a requirement applies. Absent such distinctions, the term is likely to be applied in different ways by different compliance entities. Such ambiguity is contrary to consistent, equitable enforcement.

The IRC would recommend addressing performance requirements of existing functional entities. If the performance requirements are properly written, then the proposed training requirements for Transmission Operators, Balancing Authorities, and Reliability Coordinators will be appropriate and assure enforceable reliability for the entire system, of which local control centers would, presumably, be a part.

Transmission Operators, Balancing Authorities, and Reliability Coordinators are required to have authority over those performing tasks for them. The concept that training should be consistent with the roles and responsibilities of the parties performing the tasks (paragraph 42) is correct. Those roles are defined by the Transmission Operators, Balancing Authorities, and Reliability Coordinators, and by existing Reliability Standards addressing their roles and responsibilities.

The IRC agrees with NERC that, if individuals or organizations, whether at a local control center, in the field, or otherwise, are taking independent actions (*i.e.*, not subject to the oversight of a registered, certified, and trained individual) that can affect reliability, then these individuals or organizations should be registered, and the existing requirements applied. If, however, individuals are simply opening or closing devices, pushing buttons, or otherwise taking action to effect an order or directive from a "superior" operating entity, then the IRC would argue that these individuals are merely

performing a *task* (not a function), similar to that of a substation electrician. This role is not (in any way) similar to that of a certified System Operator. Further, with respect to the Commission's statement that "personnel responsible for implementing instructions,"...should be trained based on the needs of their positions..." the IRC agrees with the following understanding. Personnel carrying out tasks under the direction of certified system operators are not making operational or reliability-based decisions, they are merely carrying out the directions of those certified system operators who *are* making those decisions. In that regard, the IRC cautions against unnecessarily expanding NERC training requirements to non-NERC jurisdictional persons or groups, such as linesmen, arborists, relay technicians, and substation personnel. If an entity chooses to expand the training offered to any individual within their organization as a best practice, then that is at the discretion of that organization. However, such requirements should not be mandated and enforceable.

I. Performance Metrics

In Paragraph 47, the Commission seeks comment from NERC on whether it considered metrics to evaluate the effectiveness of Reliability Standard PER-005-1, in addition to considering metrics to evaluate the effectiveness of an individual entity's training program. The Commission also requests comments on possible performance metrics that could be used to assess whether the proposed Reliability Standard PER-005-1 achieves its stated purpose "[t]o ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System ... are competent to perform those reliability-related tasks." The Commission also proposes to

direct NERC to evaluate the feasibility of developing meaningful performance metrics to evaluate the effectiveness of the Reliability Standard related to operator training.

The IRC agrees with the Commission that metrics should be performance-based. The IRC believes that the requirement for a systematic approach to training in conjunction with effective compliance monitoring of performance and based on established measures, will result in training program deficiencies being promptly identified. This is because entities with deficient performance will be required to develop mitigation plans, and any gaps in training will be quickly filled. Thus, the IRC does not believe it is necessary for the Commission or NERC to establish additional training metrics. Moreover, the effectiveness of the System Operator training is an essential part of any SAT program, because one of the principle tenants of a SAT program is to test the trainees to make sure they can perform each task as expected. SAT objectives include: management and administration of training and qualification programs; development and qualification of training staff; trainee entry-level requirements; determination of training program content; design and development of training programs; conduct of training; trainee examinations and evaluations; and training program evaluation. Given these requirements, the IRC believes that additional metrics are unnecessary.

J. Deferral Of Violation Risk Factors And Violation Severity Levels

In Paragraph 56, the Commission proposes to defer discussion on the proposed violation risk factors and violation severity levels assigned to PER-005-1 and PER-004-2 until after acting on NERC's petition in Docket No. RR08-4-00.

The IRC supports this approach.

K. Expansion Of Training Standard

The NOPR notes that NERC intends to address the expansion of the training standard in Project 2010-01 -- Support Personnel Training, which is slated to be initiated in 2010. The Commission states that the completion date for this standard is to be determined. The Commission concludes that, given the continuing need to require training for generator operators and operations support and planning personnel, it believes that the fourth quarter of 2011 is a reasonable deadline for completion of this work. The Commission seeks comment from NERC and other interested persons on whether completion of modifications for training of generator operators and operations support and planning personnel by the fourth quarter of 2011 is reasonable, or whether, for good cause, another timeline for completion of this work would be necessary. Further, in paragraph 65, the Commission states, "Since the issuance of Order No. 693, System Disturbance reports from NERC's website indicate that there have been disturbances caused by human errors at generating stations."

First, IRC does not believe the proposed timeline is reasonable. Standards development history has shown that it takes two to three years to develop a robust, unambiguous standard. Furthermore, requiring Standards development by a given deadline has caused NERC to repeatedly deviate from the Commission-approved Reliability Standards Development Procedure. We suggest that the Commission direct NERC to propose a reasonable timeline, if needed, rather than determining one itself.

Second, the IRC believes that term “support personnel” is undefined and lacks clarity. NERC Reliability Standards are directed to organizations and not to people. Use of ambiguous terms would violate FERC’s objective of clearly identifying applicable entities.

L. Personnel Supporting EMS Application

The Commission notes that in Order No. 693 it directed NERC to consider in the Reliability Standards Development Process certain issues regarding personnel that support EMS applications. The Commission requests that commenters discuss whether the issues identified in Order No. 693 should be addressed in the same timeline (i.e., completed by the fourth quarter of 2011) as completion of the expansion of the personnel training standard. Recommendation 19 of the Blackout Report identified training deficiencies as contributing to the August 14, 2003 blackout and stated that NERC should require training for the planning staff at control areas and IT support personnel.

The IRC believes this has been adequately addressed by companies' post-blackout remediation strategies and this is supported by the fact that there has not been another identified deficiency since or prior to the blackout.

M. Recordkeeping Requirements

In Paragraph 73, the Commission states that the recordkeeping requirements imposed by the proposed Reliability Standard PER-005-1 are more specific but not

necessarily more expansive than currently effective Reliability Standard PER-002-0's recordkeeping requirements.

The IRC notes to the Commission that increased specificity is more valuable than expansion for expansion sake, but also notes that the inclusion of the systematic approach to training includes record-keeping requirements (including a job-task-analysis), which are significantly greater than the Commission's estimates provided in the NOPR. The IRC asserts that the standard as submitted more than adequately covers appropriate record keeping requirements. Accordingly, the additional requirements would provide little or no additional benefit and represent unwarranted costs for implementation, maintenance and enforcement.

II. CONCLUSION

WHEREFORE, for the reasons stated above, the IRC requests that the Commission issue a final rule consistent with the discussion herein.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all of the parties listed on the official service list for the captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 23rd day of August, 2010.

Anna Pascuzzo

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