

133 FERC ¶ 61,159  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

18 CFR Part 40

[Docket No. RM09-25-000; Order No. 742]

System Personnel Training Reliability Standards

(Issued November 18, 2010)

AGENCY: Federal Energy Regulatory Commission.

ACTION: Final Rule

SUMMARY: Under section 215 of the Federal Power Act, the Commission approves two Personnel Performance, Training and Qualifications (PER) Reliability Standards, PER-004-2 (Reliability Coordination – Staffing) and PER-005-1 (System Personnel Training), submitted to the Commission for approval by the North American Electric Reliability Corporation, the Electric Reliability Organization certified by the Commission. The approved Reliability Standards require reliability coordinators, balancing authorities, and transmission operators to establish a training program for their system operators, verify each of their system operators' capability to perform tasks, and provide emergency operations training to every system operator. The Commission also approves NERC's proposal to retire two existing PER Reliability Standards that are replaced by the standards approved in this Final Rule.

EFFECTIVE DATE: This rule will become effective [Insert\_Date that is 60 days after publication in the **FEDERAL REGISTER**].

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SUPPLEMENTARY INFORMATION:

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Before Commissioners: Jon Wellinghoff, Chairman;  
Marc Spitzer, Philip D. Moeller,  
John R. Norris, and Cheryl A. LaFleur.

System Personnel Training Reliability Standards

Docket No. RM09-25-000

ORDER NO. 742

FINAL RULE

(Issued November 18, 2010)

1. Under section 215 of the Federal Power Act (FPA),<sup>1</sup> the Commission approves two Personnel Performance, Training and Qualifications (PER) Reliability Standards, PER-004-2 (Reliability Coordination – Staffing) and PER-005-1 (System Personnel Training), submitted to the Commission for approval by the North American Electric Reliability Corporation (NERC), the Electric Reliability Organization (ERO) certified by the Commission. The approved Reliability Standards require reliability coordinators, balancing authorities, and transmission operators to establish a training program for their system operators, verify each of their system operators' capability to perform tasks, and provide emergency operations training to every system operator. The Commission also

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<sup>1</sup> 16 U.S.C. 824o.

approves NERC's proposal to retire two existing PER Reliability Standards that are replaced by the standards approved in this Final Rule.

## **I. Background**

2. On March 16, 2007, the Commission issued Order No. 693, approving 83 of the 107 Reliability Standards filed by NERC,<sup>2</sup> including the four PER Reliability Standards: PER-001-0, PER-002-0, PER-003-0, and PER-004-1.<sup>3</sup> In addition, in Order No. 693, under section 215(d)(5) of the FPA, the Commission directed NERC to develop modifications to the PER Reliability Standards to address certain issues identified by the Commission. At issue in the immediate proceeding are two new PER Reliability Standards that would replace the currently effective Reliability Standards PER-002-0 (Operating Personnel Training) and PER-004-1 (Reliability Coordination – Staffing).

### **Currently Effective Reliability Standard PER-002-0**

3. Currently effective Reliability Standard PER-002-0 requires each transmission operator and balancing authority to be staffed with adequately trained operating personnel.<sup>4</sup> Specifically, PER-002-0: (1) directs each transmission operator and balancing authority to have a training program for all operating personnel who occupy

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<sup>2</sup> *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, 72 FR 16416 (Apr. 4, 2007), FERC Stats. & Regs. ¶ 31,242, *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

<sup>3</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1330-1417.

<sup>4</sup> *Id.* P 1331.

positions that either have primary responsibility, directly or through communication with others, for the real-time operation of the Bulk-Power System or who are directly responsible for complying with the NERC Reliability Standards; (2) lists criteria that must be met by the training program; and (3) requires that operating personnel receive at least five days of training in emergency operations each year using realistic simulations.<sup>5</sup>

4. In Order No. 693, the Commission directed NERC, pursuant to section 215(d)(5) of the FPA, to develop the following modifications to PER-002-0: (1) identify the expectations of the training for each job function; (2) develop training programs tailored to each job function with consideration of the individual training needs of the personnel; (3) expand the applicability of the training requirements to include: reliability coordinators, local transmission control center operator personnel, generator operators centrally-located at a generation control center with a direct impact on the reliable operation of the Bulk-Power System, and operations planning and operations support staff who carry out outage planning and assessments and those who develop system operating limits (SOL), interconnection reliability operating limits (IROL), or operating nomograms for real-time operations; (4) use a systematic approach to training methodology for developing new training programs; and (5) include the use of simulators

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<sup>5</sup> Reliability Standard PER-002-0.

by reliability coordinators, transmission operators, and balancing authorities that have operational control over a significant portion of load and generation.<sup>6</sup>

5. 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.<sup>7</sup>

**Currently Effective Reliability Standard PER-004-1**

6. In Order No. 693, the Commission also approved Reliability Standard PER-004-1.<sup>8</sup> This Reliability Standard requires each reliability coordinator to be staffed with adequately trained, NERC-certified operators, 24 hours a day, seven days a week. Further, PER-004-1 requires reliability coordinator operating personnel to have a comprehensive understanding of the area of the Bulk-Power System for which they are responsible.

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<sup>6</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1393.

<sup>7</sup> *Id.* P 1394.

<sup>8</sup> *Id.* P 1417.

### **NERC Petition**

7. In a September 30, 2009 filing (NERC Petition),<sup>9</sup> NERC requests Commission approval of proposed Reliability Standards PER-005-1 (System Personnel Training) and PER-004-2 (Reliability Coordination – Staffing), which were developed in response to the Commission’s directives in Order No. 693 regarding currently effective Reliability Standard PER-002-0.<sup>10</sup> NERC seeks to concurrently retire currently effective Reliability Standards PER-002-0 and PER-004-1 upon the effective date of the two new Reliability Standards.

8. NERC states that the proposed Reliability Standards “are a significant improvement over the existing Reliability Standards” and recommends Commission approval of the standards as a “significant step in strengthening the quality of operator training programs as necessary for the reliability of the [B]ulk-[P]ower [S]ystem.”<sup>11</sup>

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<sup>9</sup> *North American Electric Reliability Corp.*, Sept. 30, 2009 Petition for Approval of Proposed Reliability Standards Regarding System Personnel Training (NERC Petition). The two PER Reliability Standards are included as Exhibit A to NERC’s Petition. In addition, pursuant to section 40.3 of the Commission’s regulations, all Commission-approved Reliability Standards are available on NERC’s website at <http://www.nerc.com/page.php?cid=2|20>. See 18 CFR. 40.3.

<sup>10</sup> NERC’s Petition addresses only the directives in Order No. 693 related to existing Reliability Standard PER-002-0, not the directives related to PER-004-1. See NERC Petition at 27.

<sup>11</sup> NERC Petition at 5.

**Reliability Standard PER-005-1**

9. The stated purpose of Reliability Standard PER-005-1 is to ensure system operators performing real-time, reliability-related tasks on the North American bulk electric system are competent to perform those reliability-related tasks.<sup>12</sup> Reliability Standard PER-005-1 applies to reliability coordinators, balancing authorities, and transmission operators.<sup>13</sup> Reliability Standard PER-005-1 contains three main requirements:

- Requirement R1 mandates the use of a systematic approach to training for both new and existing training programs. The requirement further requires applicable entities to create a company-specific, reliability-related task list relevant to Bulk-Power System operation and to design and develop learning objectives and training materials based on the task list performed by its System Operators each calendar year. Finally, the requirement mandates the training be delivered and the training program be evaluated on at least an annual basis to assess its effectiveness.
- Requirement R2 requires the verification of a System Operator's ability to perform the tasks identified in Requirement R1. The requirement also mandates re-verification of a System Operator's ability to perform the tasks within a specified time period when program content is modified.

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<sup>12</sup> Reliability Standard PER-005-1, Section A.3 (Purpose).

<sup>13</sup> The responsible entities subject to PER-005-1 include: reliability coordinators, balancing authorities and transmission operators as those entities are defined in the *Glossary of Terms Used in NERC Reliability Standards*, April 20, 2010, available at [http://www.nerc.com/docs/standards/rs/Glossary\\_of\\_Terms\\_2010April20.pdf](http://www.nerc.com/docs/standards/rs/Glossary_of_Terms_2010April20.pdf).

- Requirement R3 identifies the number of hours of emergency operations training (at least 32 hours) that a System Operator is required to obtain every twelve months. The requirement further identifies those entities required to use simulation technology such as a simulator, virtual technology, or other technology in their emergency operations training programs.<sup>14</sup>

Proposed Reliability Standard PER-005-1 is a new Reliability Standard that is intended to supersede all of currently effective Reliability Standard PER-002-0 as well as Requirements R2, R3, and R4 of currently effective Reliability Standard PER-004-1.

#### **Proposed Reliability Standard PER-004-2**

10. Proposed Reliability Standard PER-004-2 modifies PER-004-1 by deleting Requirements R2, R3, and R4, as these three Requirements are incorporated into proposed PER-005-1. Proposed Reliability Standard PER-004-2 simply carries forward, unchanged, the remaining provisions from currently effective PER-004-1, including the associated violation risk factor and violation severity level assignments.

#### **Notice of Proposed Rulemaking**

11. On June 17, 2010, the Commission issued its Notice of Proposed Rulemaking (NOPR) proposing to approve the two proposed PER Reliability Standards, PER-004-2

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<sup>14</sup> NERC Petition at 8-9.

and PER-005-1 (and to retire the two superseded standards, PER-002-0 and PER-004-1).<sup>15</sup> With respect to Reliability Standard PER-005-1, the NOPR proposed to direct NERC to: (1) modify PER-005-1 to explicitly require training for local transmission control center personnel, and (2) to evaluate the feasibility of developing meaningful performance metrics to evaluate the effectiveness of PER-005-1. In addition, in the NOPR, the Commission sought clarification from NERC and/or industry comments on several specific aspects of proposed Reliability Standard PER-005-1, including:

(1) whether three specific training requirements are carried over from PER-004-1 to PER-005-1 and are enforceable as part of the systematic approach to training umbrella;

(2) whether PER-005-1, R1.2, through the systematic approach to training, adequately requires entities to develop training programs tailored to each job function with consideration of the individual training needs of the personnel; (3) whether PER-005-1, R3.1 requires the use of simulators specific to an operator's own system and if not, whether it is feasible or practical to mandate the use of simulators that are specific to the operator's system; (4) whether the proposed two- and three-year lead time prior to certain Requirements in PER-005-1 become effective are necessary and the feasibility of staggering the retirement of currently effective Reliability Standards PER-002-0 and

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<sup>15</sup> *System Personnel Training Reliability Standards*, 75 FR 35689 (June 17, 2010), FERC Stats. & Regs. ¶ 32,661 (2010) (NOPR).

PER-004-1; and (5) whether it is feasible for NERC to complete the standards development project to expand applicability of PER-005 to include certain generator operators and operations planning and operations support staff by fourth quarter 2011. The Commission also proposed to approve NERC's proposed retirement of currently effective Reliability Standards, PER-002-0 and PER-004-1, which will be superseded by the two new standards.

12. In response to the NOPR, comments were filed by 28 interested parties. These comments assisted us in the evaluation of NERC's proposal. In the discussion below, we address the issues raised by these comments. Appendix A to this Final Rule lists the entities that filed comments on the NOPR.

## **II. Discussion**

### **A. Approval of PER-004-2 and PER-005-1**

13. In the NOPR, the Commission proposed to approve the two PER Reliability Standards filed by NERC in this proceeding as just, reasonable, not unduly discriminatory or preferential, and in the public interest. The Commission stated that proposed Reliability Standards PER-005-1 and PER-004-2 represent an improvement in training requirements.

### Comments

14. Many commenters support approving the two proposed Reliability Standards PER-004-2 and PER-005-1.<sup>16</sup> NERC reiterates in its comments that implementation of Reliability Standards PER-005-1 and PER-004-2 will achieve a significant improvement in the reliability of the Bulk-Power System and, therefore, it is supportive of the Commission's proposal to approve the two standards. APPA states that the proposed PER standards strike the right balance among costs, flexibility and performance, and that PER-005-1 and PER-004-2 should be approved without modification. Dominion notes that the implementation of the more stringent requirements of PER-005-1, including the adoption of a systematic approach to training for new and existing system operator training programs, recognizes the criticality of such training and contains a logical and reasonable approach to providing the appropriate personnel with the necessary training.

15. EEI states that if the Reliability Standards are approved, compliance with both PER-004-2 and PER-005-1 will support the reliability of the Bulk-Power System by measuring competence against a list of specific task requirements. EEI also comments that by implementing training requirements that test specific competencies, the proposed Reliability Standard PER-005-1 provides greater clarity, thus improving its

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<sup>16</sup> See comments of APPA, Dominion, EEI, IESO, NERC, NRECA, PG&E, Platte River, Wisconsin Electric, and WECC.

enforceability. No commenter objects to the approval of the two training Reliability Standards.

### **Commission Determination**

16. The Commission adopts the NOPR proposal and approves Reliability Standard PER-004-2 and PER-005-1 as just, reasonable, not unduly discriminatory or preferential, and in the public interest.<sup>17</sup> By assigning a significant amount of structure to the training programs for the principal operators of the Bulk-Power System, namely reliability coordinators, balancing authorities and transmission operators, the two proposed Reliability Standards will enhance the reliability of the Bulk-Power System. Moreover, the two proposed Reliability Standards represent a step forward in implementing a key recommendation from the 2003 Blackout Report<sup>18</sup> by addressing an identified gap where operations personnel were not adequately trained to maintain reliable operation under emergency conditions.

17. The Commission is not directing any modifications to the substantive requirements of the two new Reliability Standards, PER-005-1 or PER-004-2.

Nevertheless, as discussed in greater detail below, the Commission has several concerns

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<sup>17</sup> 16 U.S.C. 824o(d)(2).

<sup>18</sup> *U.S.-Canada Power System Outage Task Force, Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations*, (April 2004) (Blackout Report), available at <http://www.ferc.gov/industries/electric/indus-act/blackout.asp>.

regarding certain training issues. To address these concerns, and as discussed in greater detail below, the Commission is issuing directives that the ERO: (1) consider the necessity of developing an implementation plan for entities that become subject to PER-005-1, Requirement R3.1 after Requirement R3.1 is in effect, and (2) develop a Reliability Standard, through the ERO's Reliability Standards development process, conducted pursuant to its Standard Processes Manual, establishing training requirements for local transmission control center operator personnel.

**B. Implementation Timeline**

18. In the NOPR, the Commission expressed concern about NERC's proposed use of staggered effective dates for the two proposed Reliability Standards, which Reliability Standards modify currently effective standards. The Commission questioned whether staggered effective dates could create a gap in compliance and enforceability.

Specifically, NERC proposed to make the various requirements in PER-005-1 mandatory and enforceable in three stages over a three-year period. The Commission also questioned the need for the proposed two- and three-year lead times before certain Requirements in PER-005-1 become mandatory and enforceable.

**Comments**

19. NERC's comments clarify the proposed effective dates for each of the new Requirements in PER-005-1 and PER-004-2 as well as the corresponding retirement dates of the currently effective Requirements in PER-002-0 and PER-004-1. NERC

included in its comments a table that specifies the retirement and effective date for each Requirement in each of the affected Reliability Standards, specifically, currently effective PER-002-0 and PER-004-1 and proposed Reliability Standards PER-004-2 and PER-005-1. This table is reproduced in Appendix B of this Final Rule. Further, NERC provides justification for the proposed two- and three-year lead times for the effective date for some of the proposed Requirements in PER-005-1. Specifically, NERC states that the 24-month implementation timeframe of proposed PER-005-1, Requirements R1 and R2 allows flexibility in developing and implementing the training programs that use a systematic approach to training, and is structured and tailored to the functions that each entity performs in operating the Bulk-Power System. Additionally, NERC explains that the 36-month implementation timeframe for Requirement R3.1 in the proposed standard PER-005-1 allows entities with simulation technology sufficient time to integrate the use of this technology as a core component of those programs going forward and allows entities without simulation technology the needed time to secure and integrate simulation technology. Finally, NERC states that it reviewed the staggered effective/retirement dates and did not find any overlaps or gaps.

20. The majority of the commenters generally support NERC's proposed effective and retirement dates.<sup>19</sup> Many of these commenters state that if the Commission rejects the use of staggered effective and retirement dates, then in the alternative, the Commission should impose a uniform effective date that is the first day of the first calendar quarter, 36 months after FERC approval.<sup>20</sup> BGE, GSOC and GTC, KCP&L, SPP, and Westar generally support eliminating the staggered effective dates and instead setting this uniform effective/retirement date.

21. EEI raises a concern regarding the effective date for Reliability Standard PER-005-1, Requirement 3.1. Specifically, EEI states that although Reliability Standard PER-005-1 addresses lead times for compliance based on regulator approval of the standards, it does not address the situation where Requirement 3.1 is not applicable to certain entities at the time of the regulatory effective date of the standard, but later becomes applicable to those entities. Specifically, with respect to PER-005-1, Requirement R3.1, which requires simulator training for entities with established

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<sup>19</sup> See comments submitted by BPA, ITC, Minnesota Power, Montana-Dakota, NV Energy, NorthWestern, PG&E, Platte River, Portland, and WECC.

<sup>20</sup> See comments submitted by Minnesota Power, Montana-Dakota, PG&E, and WECC.

interconnection reliability operating limits (IROLs),<sup>21</sup> EEI states that if an entity does not have established IROLs when the Reliability Standard PER-005-1 becomes effective, but later due to system changes an IROL is invoked, the standard does not specify when the requirements for simulation training (Requirement R3.1) would be mandatory and enforceable for such an entity. EEI states that because entities with established IROLs would initially have 36 months to comply with the provisions of Requirement R3.1; i.e., to develop simulation training, that the same 36 month compliance lead time should also be afforded to all entities with future established IROLs. EEI requests that the Commission direct NERC to modify the effective date specified in Reliability Standard PER-005-1, section 5.1 to grant a 36-month lead time for entities with newly established IROLs or operating guides to be compliant with Requirement 3.1.

### **Commission Determination**

22. The Commission finds that the proposed staggered implementation schedule for PER-005-1 and PER-004-2 and the corresponding retirement schedule for PER-002-0 and PER-004-1 strikes a reasonable balance between the need for timely reform and the needs of the entities that will be subject to PER-005-1 to develop and implement training programs utilizing a systematic approach to training and use of simulators as a training

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<sup>21</sup> See NERC Glossary of Terms at [http://www.nerc.com/docs/standards/rs/Glossary\\_of\\_Terms\\_2010April20.pdf](http://www.nerc.com/docs/standards/rs/Glossary_of_Terms_2010April20.pdf).

tool. The effective and retirement date table provided by NERC in its comments and incorporated herein as Appendix B demonstrates that there are no apparent overlaps or gaps between the retirement of PER-002-0 and PER-004-1 and the effectiveness of the requirements in the new Reliability Standards, PER-005-1 and PER-004-2.

23. The Commission finds that the commenters that advocate for a uniform effective date of 36 months have not adequately justified such a lengthy lead time for a Reliability Standard that will not impose entirely new requirements. Rather, PER-005-1 requires applicable entities to build upon and improve the existing training programs that are in place under currently effective PER-002-0. Accordingly, as approved, PER-004-2 in its entirety and PER-005-1, Requirement R3 shall become effective on the first day of the first calendar quarter after regulatory approval.<sup>22</sup> PER-005-1, Requirements R1, R1.1, R1.1.1, R1.2, R1.3, R1.4, R2, and R2.1 shall become effective on the first day of the first calendar quarter, twenty-four months after regulatory approval. And, finally, PER-005-1, Requirements R3.1 shall become effective on the first day of the first calendar quarter, thirty-six months after regulatory approval.

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<sup>22</sup> “Regulatory approval” for these two Reliability Standards refers to approval by the Commission in a final rule. The date of the Commission’s regulatory approval is not the date that the final rule is issued by the Commission, rather, in this case, it is 60 days after the date the final rule is published in the *Federal Register*.

24. With respect to EEI's comment regarding the effective date for entities that may become, in the future, subject to the simulator training requirement in PER-005-1, R3.1, the Commission believes that this issue should be considered by the ERO. We note that, with respect to the Critical Infrastructure Protection (CIP) Reliability Standards, NERC has developed a separate implementation plan that essentially gives responsible entities some lead time before newly acquired assets must be in compliance with the effective CIP Reliability Standards.<sup>23</sup> We direct NERC to consider the necessity of developing a similar implementation plan with respect to PER-005-1, Requirement R3.1.

**C. Systematic Approach to Training**

25. A systematic approach to training is a widely-accepted methodology that ensures training is efficiently and effectively conducted and is directly related to the needs of the position in question.<sup>24</sup> To achieve training results, the objectives of a systematic approach to training 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.

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<sup>23</sup> See *North American Electric Reliability Corp.*, 130 FERC ¶ 61,271, at P 15 (2010) (approving the Implementation Plan for Newly Identified Cyber Assets).

<sup>24</sup> See Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1382.

**NOPR**

26. In the NOPR, the Commission agreed with NERC that proposed Reliability Standard PER-005-1, Requirement R1 met the Commission's directive to "develop a modification to PER-002-2 (or a new Reliability Standard) that uses the systematic approach to training methodology."<sup>25</sup> However, the Commission noted that the generic reference to systematic approach to training contained in proposed PER-005-1 Requirement R1 raised the question of whether certain Order No. 693 directives and certain specific training requirements that are explicitly set forth in the currently effective Reliability Standards PER-002-0 and PER-004-1, which are to be retired, are fully and adequately captured under the systematic approach to training umbrella. The Commission questioned whether the following three currently effective training requirements from PER-002-0 and PER-004-1 are incorporated in proposed Reliability Standard PER-005-1: (i) understanding of reliability coordinator area, (ii) continual training, and (iii) training staff identity and competency. In the NOPR, the Commission sought comment on its understanding of the carryover of these three currently enforceable compliance obligations.

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<sup>25</sup> NOPR, FERC Stats. & Regs. ¶ 32,601 at P 25 (citing Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1380).

**1. Understanding of Reliability Coordinator Area**

27. Currently effective Reliability Standard PER-004-1, Requirements R3 and R4 provide that reliability coordinator operating personnel “shall have a comprehensive understanding of the Reliability Coordinator Area and interactions with neighboring Reliability Coordinator areas” and “shall have an extensive understanding of the Balancing Authorities, Transmission Operators, and Generation Operators within the Reliability Coordinator Area, including the operating staff, operating practices and procedures . . . .”<sup>26</sup> NERC states that these two requirements are supplanted by and addressed more fully in proposed Reliability Standard PER-005-1, Requirements R1 and R2. However, proposed Reliability Standard PER-005-1 does not explicitly require reliability coordinator operating personnel to have a comprehensive understanding of the reliability coordinator area or an extensive understanding of the balancing authorities, transmission operators, and generation operators within the reliability coordinator area. In order to clarify that these requirements are clear and enforceable under proposed Reliability Standard PER-005-1, the Commission sought an explanation from NERC and comments from the general public whether these existing requirements are enforceable under the proposed Reliability Standard PER-005-1 and whether these requirements are clear or should be more explicit.

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<sup>26</sup> See Reliability Standard PER-004-1, Requirements R3 and R4.

### Comments

28. Most commenters agree that comprehensive understanding of the reliability coordinator area is fully addressed by PER-005-1, Requirements R1 and R2 through the use of a systematic approach to training.<sup>27</sup> For example, Dominion supports proposed PER-005-1, Requirements R1 and R2 because the requirements are clear, measurable, and eliminate the subjectivity of the phrase “comprehensive understanding” that currently exists under the current PER-004-1, Requirement R3. Dominion believes that proper implementation of a systematic approach to training will address the Commission’s concern that operating personnel may not have a proper understanding of their system and interactions with neighboring systems without resurrecting the vague language in PER-004-1. However, other commenters, including ITC, MidAmerican, and SPP, state that because the requirement to have a “comprehensive understanding of the reliability coordinator’s area” is not explicitly stated in PER-005-1, it will be difficult to enforce.

29. NERC states that PER-005-1 implements a defense-in-depth approach to ensure that the reliability coordinator’s system operators have a comprehensive understanding of their reliability coordinator area. NERC believes this approach ensures that system operators have the tools to effectively monitor and direct actions within the reliability

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<sup>27</sup> See comments of BPA, Dominion, GSOC & GTC, IESO, ISO/RTO Council, KCP&L, Minnesota Power, Montana Dakota, NV Energy, NERC, PG&E, Portland, Westar, and WECC.

coordinator area in support of the Bulk-Power System. NERC provides examples of how proposed PER-005-1 ensures that the reliability coordinator's system operators will have detailed knowledge of their reliability coordinator area.

### **Commission Determination**

30. Based on NERC's explanation, the Commission agrees that the existing requirements contained in PER-004-1, which require reliability coordinators to have a comprehensive understanding of the reliability coordinator area and interactions with neighboring reliability coordinator areas and an extensive understanding of the balancing authorities, transmission operators, and generation operators within the reliability coordinator area, are adequately captured and enforceable under proposed Reliability Standard PER-005-1.

### **2. Continual Training**

31. Currently effective Reliability Standard PER-002-0, Requirement R3.2 explicitly mandates that "the training program must include a plan for the initial and *continuing* training of Transmission Operators and Balancing Authorities operating personnel." In the NOPR, the Commission sought an explanation from NERC, and comment 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.

### **Comments**

32. NERC comments that continual training is an enforceable requirement under PER-005-1, Requirement R1 as a fundamental aspect of a systematic approach to training.

Most commenters agree with NERC that continual training is an inherent aspect of the systematic approach to training.<sup>28</sup> For example, the ISO/RTO Council states that PER-005-1 is superior to the previous continual training requirement and will be easily measured and enforced and thus does not need to be more explicit.

33. KCP&L believes continuing training is not necessary for routine tasks, only non-routine. MidAmerican and NV Energy both argue that explicit language addressing continual training is necessary to be an enforceable requirement.

### **Commission Determination**

34. Based on NERC's and the majority of the commenters' affirmation that continual training is a fundamental part of a systematic approach to training and an enforceable requirement under PER-005-1, we find that any systematic approach to training, including the systematic approach to training mandated by Reliability Standard PER-005-1, would entail continual training to refresh system operators' knowledge and to cover any new tasks relevant to the operation of the Bulk-Power System.

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<sup>28</sup> See comments of BPA, GSOC & GTC, IESO, ISO/RTO Council, ITC, Minnesota Power, Montana-Dakota, NV Energy, NorthWestern, PG&E, Platte River, Portland, Westar, and WECC.

### **3. Training Staff Identity and Competency**

35. In the NOPR, the Commission noted that currently effective Reliability Standard PER-002-0, Requirement R3.4 requires a training program in which “[t]raining staff must be identified, and the staff must be competent in both knowledge of system operations and instructional capabilities.” The Commission further noted that this requirement is not explicitly provided in PER-005-1. As such, the NOPR sought clarification as to (i) how and whether a systematic approach to training requires training staff to be identified, and (ii) if not, the mechanism by which training staff will be identified and its competency ensured. The Commission also invited comment on whether this clarification should be made explicit so that entities clearly understand their compliance obligations.

#### **Comments**

36. NERC agrees with the Commission that PER-002-0, Requirement R3.4, which requires a training program in which training staff must be identified and competent in system operations and instructional capabilities, is an important requirement and proposes to reassess whether this requirement should be made more explicit in a later version of PER-005-1 so that entities can understand their compliance obligations.

37. The majority of commenters agree that training staff identification and competency are inherent in a systematic approach to training, and that, as such, no

modification of proposed PER-005-1 is necessary.<sup>29</sup> However, some commenters disagree and argue that PER-005-1 should have an explicit requirement similar to Requirement R3.4 in PER-002-0 mandating training staff to be identified and be competent in system operations and instructional capabilities.<sup>30</sup> Other commenters state that the systematic approach to training does not require training staff to be identified or their competency ensured, but argue that such a requirement is not necessary and potentially detrimental.<sup>31</sup> For example, ITC believes competency of training staff should be determined by entities internally during the hiring process and companies should not be limited by a prescriptive requirement that does not allow for company discretion during the hiring process.

### **Commission Determination**

38. Based on the comments received, the Commission concludes that the current requirement for each training program (that training staff must be identified and that such staff must be competent in both knowledge of system operations and instructional capabilities) is inherent in any systematic approach to training that a registered entity would use to meet this requirement, and thus is an enforceable component of

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<sup>29</sup> See comments of GSOC & GTC, Minnesota Power, Montana Dakota, NRECA, NV Energy, PG&E, Platte River, Portland, SPP, and Westar.

<sup>30</sup> See comments of BGE, BPA, and MidAmerican.

<sup>31</sup> See comments of IESO, ISO/RTO Council, ITC, KCP&L, NorthWestern, and Wisconsin Electric.

Requirement R1 under the proposed standard. However, given the number of commenters that argue that it is necessary for the current training program requirement to be explicitly stated in the proposed training standard, we agree that NERC should follow through on its proposal in its comments to reassess whether this requirement should be made more explicit in a later version of PER-005-1.

**D. Training Expectations for Each Job Function/Tailored Training**  
**NOPR Proposal**

39. Proposed Reliability Standard PER-005-1, Requirement R1.2 mandates applicable entities to “design and develop learning objectives and training materials based on the task list created in R1.1.”<sup>32</sup> In the NOPR, the Commission noted that it believes that NERC has complied with the directive to require entities to identify the expectations of the training for each job function and develop training programs tailored to each job function with consideration of the individual training needs of their personnel. The Commission took the view in the NOPR that the systematic approach to training used to satisfy PER-005-1, Requirement R1 would assess factors such as educational, technical experience, and medical requirements that candidates must possess before entering a given training program. With the above understanding, the Commission concluded that

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<sup>32</sup> NERC Petition at 27 (quoting proposed Reliability Standard PER-005-1, Requirement R1.2).

the systematic approach to training methodology required in Reliability Standard PER-005-1, Requirement R1 satisfies the Commission's directive for Order No. 693 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. In the NOPR, the Commission sought comment on its understanding that PER-005-1, Requirement R1.2 requires that the learning objectives and training materials be developed with consideration of the individual needs of each operator.

### **Comments**

40. NERC agrees with the Commission that learning objectives and training materials are to be developed for each job function. NERC believes that using a systematic approach to training allows each entity to tailor its training program to best meet the training needs of the function performed by System Operators.

41. A number of commenters<sup>33</sup> agree with NERC and affirm the Commission's understanding that a systematic approach to training requires development of tailored training. NorthWestern concurs that PER-005-1 requires the training materials to be tailored to the individual needs of each operator. For example, IESO believes that the

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<sup>33</sup> See comments of BPA, GSOC & GTC, NV Energy, NorthWestern, PG&E, and Platte River.

systematic approach to training process will ensure that the necessary knowledge, skills and abilities are provided in the development of learning objectives and associated training materials. The ISO/RTO Council contends that PER-005 addresses function/task-specific training and not person-specific training or personal development. With respect to Requirement R1.2, the ISO/RTO Council interprets the Commission's statement that ". . . requires that the learning objectives and training materials be developed with consideration of the individual needs of each operator. . . ." as requiring an entity to address the knowledge and skill gaps of individual system operators with respect to the reliability tasks they are expected to perform.<sup>34</sup> The ISO/RTO Council supports the term "systematic approach to training (in lower case)" as used in the Reliability Standard because the lower case term provides registered entities flexibility in complying with the standard.<sup>35</sup>

42. SPP and Westar did not take a position on the issue; rather, they request that the Commission clarify what is meant by "consideration of the individual needs of each operator." BG&E recommends that the Commission make more explicit the requirement to implement the Department of Energy Handbook on the systematic approach to

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<sup>34</sup> See IRC Comments at 7.

<sup>35</sup> *Id.*

training<sup>36</sup> as the mandatory standardized methodology industry-wide, and expresses the view that the DOE Handbook is the most stringent set of standards available, has the longest track record of proven successful results, and is familiar to the industry. BG&E identifies the following expectations that training should include: (1) customized, task-based training; (2) annual assessment of operator needs; and (3) individualized training on any task for which the trainee failed to achieve satisfactory standards during the annual training.

43. One commenter, Wisconsin Electric, disagrees with the Commission's "understanding" on this issue. Wisconsin Electric expresses several concerns with the following statement in the NOPR:

Based on our review of the Systematic Approach to Training methodology used by the Department of Energy, we understand that a Systematic Approach to Training would assess factors such as educational, technical, experience, and medical requirements that candidates must possess before entering a given training program. With the above understanding, we believe 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

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<sup>36</sup> See U.S. Department of Energy's Handbook, DOE-HDBK-1078-94, Training Program Handbook: A Systematic Approach to Training (August 1994), available at <http://www.hss.energy.gov/nuclearsafety/ns/techstds/standard/hdbk1078/hdbk1078.pdf> (DOE Handbook).

each job function with consideration of the individual training needs of the personnel.<sup>37</sup>

Specifically, Wisconsin Electric is concerned that this would add a number of elements to PER-005 and would create confusion over the scope of the compliance obligation.

Wisconsin Electric states that this language appears to impose the Department of Energy's Systematic Approach to Training as the only acceptable methodology, which, in effect, precludes entities from adopting another approach. Wisconsin Electric is also concerned that the factors that a candidate must possess before entering a training program create a de facto compliance checklist that would exist apart from the language of the Reliability Standard. Wisconsin Electric objects to the expansion of NERC requirements to include assessment of medical condition of its personnel. Wisconsin Electric believes that the Commission should approve PER-005-1 as written without conditioning its approval on additional, unstated requirements.

#### **Commission Determination**

44. Based on NERC's and other commenters' affirmation of the Commission's understanding as stated in the NOPR, the Commission confirms 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

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<sup>37</sup> NOPR, FERC Stats & Regs. ¶ 32,661 at P 32.

operator. In response to Wisconsin Electric, BG&E and the ISO/RTO Council, the Commission clarifies that it is not mandating the use of the specific Systematic Approach to Training methodology used by the Department of Energy. However, we believe that the Department of Energy's Systematic Approach to Training methodology as set forth in the DOE Handbook is a particularly good and relevant model to use.

45. DOE's Handbook is relevant for two reasons. First, it was designed to assist facilities, specifically nuclear facilities, that are within the same general industry as electric power facilities.<sup>38</sup> Second, the DOE Handbook was written on the assumption that the user, a facility, is currently not using the DOE Systematic Approach to Training model for their training programs, which is very likely the case with respect to entities subject to PER-005-1.<sup>39</sup> Thus, the DOE Handbook is particularly relevant to entities that transition to a systematic approach to training. We note that the DOE Handbook was

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<sup>38</sup> DOE has noted that although its training handbooks related to the Systematic Approach to Training were prepared primarily for DOE nuclear facilities, the information can be effectively used by any other type of facility. *See* DOE Handbook, DOE-HDBK-1074-95 at Foreword (January 1995) (Alternative Systematic Approach to Training Handbook), *available at* <http://www.hss.energy.gov/nuclearsafety/ns/techstds/standard/hdbk1074/hdb1074a.html>.

<sup>39</sup> *See* DOE Handbook at 1.2. The DOE Handbook acknowledges that many nuclear facilities already had effective training programs in place that contain many performance-based characteristics. Accordingly, DOE Handbook states that facilities with existing training programs should not discard such programs; rather, they should validate and supplement the existing training content where necessary using systematic methods. *Id.*

compiled from a number of sources including the Institute of Nuclear Power Operations' Principles of Training System Development as well as in collaboration with personnel representing DOE contractors and private industry.<sup>40</sup> Moreover, the DOE Handbook provides reasonable flexibility when implementing a systematic approach to training in various settings.<sup>41</sup>

46. Finally, SPP and Westar request that the Commission clarify what is meant by "consideration of the individual needs of each operator." The Commission provides the following clarification. A training plan is designed to prepare *individuals* to perform their jobs. More specifically, a training plan should address gaps between the skills necessary to accomplish a particular job task and an operator's competency to carry out that task. Because of the emphasis on the individual, to be effective, a training plan must take into consideration the individual needs of the trainee, which includes the trainee's education level, technical experience, and relevant medical requirements.

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<sup>40</sup> See DOE Handbook at 1.1.

<sup>41</sup> See *id.* at 1.2. In developing the DOE Handbook, DOE noted that the handbook describes the more classical concept and approach to systematically establishing training programs. However, in some cases this classical approach has proven to be time- and labor-intensive, and therefore encourages users of the handbook to consider the variety of training options that are available for establishing and maintaining personnel training and qualification programs. DOE further found that blending classical and alternative systematic approaches to training methods often yields the most effective product. See DOE Handbook at iii (the Foreword).

**E. Simulation Training**

47. In Order No. 693, the Commission directed NERC to develop a requirement mandating simulator training for reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. Recognizing that cost of simulator training is an issue, the Commission allowed for the use of simulators to be dependent on an entity's role and size.<sup>42</sup>

**NOPR Proposal**

48. In the NOPR, the Commission found that proposed Reliability Standard PER-005-1, Requirement R3.1 meets this Order No. 693 directive regarding training using simulators. However, the Commission sought comment on the terminology in Requirement R3.1 which provides that the emergency operations training should use “simulation technology such as a simulator, virtual technology, or other technology that *replicates the operational behavior of the BES during normal and emergency conditions.*” Specifically, the NOPR asked NERC to clarify: (i) whether the language in R3.1, “replicates the operational behavior of the BES,” requires the use of simulators specific to an operator's own system; (ii) if not, whether operators trained on simulators that replicate systems other than their own will be adequately trained to respond to emergency conditions on their own system; and (iii) whether it is feasible or practicable

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<sup>42</sup> See Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1390.

(including cost considerations) to require use of simulators that realistically replicate the entity's own topology and operating conditions; i.e., to require "custom" simulators.

### **Comments**

49. NERC and all others who commented on the simulator training issue agree that PER-005-1, Requirement R3.1, does not require the use of custom simulators.<sup>43</sup> NERC, and other commenters,<sup>44</sup> state that Requirement R3.1 requires a simulator to replicate the operational behavioral characteristics of the bulk electric system through the use of simulation technology. Commenters argue that the purpose of simulators is to train the operator in principles that can be applied to any system. Specifically, NRECA explains that the intent of PER-005-1, Requirement R3.1 is not to require simulators that replicate every aspect of an entity's own topology and operating conditions. Rather, the intent is to replicate the operational behavioral characteristics of the bulk electric system through the use of more generalized simulation technology.

50. All commenters, except for BPA, agree that the simulator training requirement *should not* require custom simulators. Some commenters argue that custom simulators

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<sup>43</sup> See comments of APPA, BPA, EEI, GSOC & GTC, IESO, ISO/RTO Council, ITC, KCP&L, MidAmerican, Minnesota Power, Montana-Dakota, NRECA, NV Energy, NERC, NorthWestern, PG&E, Platte River, Portland, SPP, and Westar.

<sup>44</sup> See comments of APPA, EEI, IESO, ISO/RTO Council, NRECA, Northwestern, PG&E, Platte River, Portland, SPP, and Westar.

are not necessary.<sup>45</sup> These commenters argue that it is the understanding of situational conditions and the response to them that is the hallmark of successful operator training, and such training does not require the use of simulators specific to an operator's own system.

51. For example, NRECA states that it is an understanding of the situational conditions and the response to them that is the key to successful operator training, and those do not require the use of simulators specific to an operator's own system. NRECA further described that simulation of operational scenarios such as: frequency response of generators, VAR flow from high voltage to low voltage, and restoration load pick-up and the potential for under-frequency tripping, are concepts common to all systems, noting that a simulator can address and train on these issues irrespective of individual system characteristics. Minnesota Power and Montana Dakota explain that, in general, elements of the bulk electric system exhibit behaviors based upon the characteristics of each element, not upon their specific location in a particular system. They posit that it is the understanding of the situational conditions and the response to them that is the key to successful operator training and that understanding does not require the use of simulators specific to an operator's own system. EEI notes that the issue of custom versus generic

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<sup>45</sup> See comments of EEI, IESO, KCP&L, Minnesota Power, Montana-Dakota, NRECA, NV Energy, and PG&E.

simulators was discussed extensively by the PER-005-1 drafting team and argues that custom simulators are not necessary to properly train personnel. EEI urges the Commission to approve PER-005-1, R3.1 without change and to allow NERC to monitor the effectiveness of the simulator training requirement for possible gaps.

52. Other commenters argue against mandating custom simulators because the cost of custom simulators would far exceed the benefit.<sup>46</sup> APPA states that the additional cost of developing and maintaining a realistic full-scale, system-specific simulator for a small balancing authority or transmission operator would likely exceed the benefits. No commenter provided specific estimates of the incremental increase in cost of custom simulators. EEI, acknowledging that it does not have specific cost information, noted that accurate Bulk-Power System modeling and maintenance would be a significant cost driver. ITC states that although it believes that the use of system simulators specific to an operator's own system would better prepare a system operator for emergency conditions, the cost of custom simulators could likely outweigh the reliability benefits to small operators. Portland General Electric estimates that purchase, implementation and maintenance of a system-specific simulator could cost several hundred thousand dollars

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<sup>46</sup> See comments of APPA, EEI, ISO/RTO Council, ITC, KCP&L, MidAmerican, Minnesota Power, Montana-Dakota, NRECA, NV Energy, NorthWestern, Platte River, Portland, and SPP.

in up-front costs and would necessitate the addition of engineering personnel for programming and ongoing maintenance.

53. BPA, the sole commenter that endorses modifying PER-005-1 to mandate the use of custom simulators, notes that it uses custom simulators. BPA acknowledges that the cost of implementing and maintaining a high fidelity simulator is significant, but suggests an alternative approach of developing a centralized, high fidelity simulator that realistically replicates the entire interconnection that could be remotely accessed by entities for training exercises.

54. NERC notes in its comments that custom simulators could be important in ensuring the reliability of the BES. NERC further states that while a high fidelity simulator may not be necessary to ensure bulk electric system reliability, NERC agrees that simulators used for training that provide a useful representation of the system that the operators work with may warrant further consideration in a subsequent version of the proposed standard.<sup>47</sup> EEI appears to agree with NERC, as EEI urges the Commission to allow NERC to implement the new PER-005-1 requirements, gather experience on their effectiveness, and monitor results for possible gaps or challenges that arise with experience.

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<sup>47</sup> NERC Comments at 14.

### **Commission Determination**

55. We affirm NERC's and the industry's understanding that PER-005-1, Requirement R3.1 does not require the use of simulators specific to an operator's own system. While the Commission continues to feel there is value in using custom simulators, we acknowledge that NERC and industry have determined that it is not necessary at this time. However, NERC and other commenters state that there may be potential reliability benefits of some form of custom simulators. NERC has also proposed to consider custom simulators in a subsequent modification of PER-005-1. We appreciate NERC's commitment to continually look at how reliability can be improved and encourage NERC and industry to evaluate the gained reliability in requiring the use of custom simulators.

#### **F. Local Transmission Control Center Operator Personnel Training**

56. In Order No. 693, the Commission directed NERC to expand the applicability of currently effective Reliability Standard PER-002-0 to include local transmission control center operator personnel. Order No. 693 provided that the training should be tailored to the functions that local transmission control center operators perform that impact the reliable operation of the Bulk-Power System for both normal and emergency operations.<sup>48</sup> Proposed Reliability Standard PER-005-1, which is intended to supersede

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<sup>48</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1348.

existing Reliability Standard PER-002-0, does not include local transmission control center operator personnel in the applicability section. Rather, proposed Reliability Standard PER-005-1, as drafted, is applicable only to the following three functional entities: reliability coordinators, balancing authorities, and transmission operators. NERC explained that its functional model lists the functions that a transmission operator performs, which includes the functions performed by local transmission control center personnel. NERC therefore concluded that, the Order No. 693 directive to include formal training for local transmission control center personnel is addressed in proposed Reliability Standards PER-005-1 because the transmission operator has the ultimate responsibility to ensure that its functional responsibilities are met, even if through other entities.<sup>49</sup>

### **NOPR Proposal**

57. In the NOPR, the Commission rejected NERC's explanation regarding the failure to include local transmission control center operating personnel in the proposed training standard. The Commission stated in the NOPR that, contrary to NERC's suggestion, under proposed Reliability Standard PER-005-1, a transmission operator could not require a local transmission control center operator to receive training if that operator is employed by an entity other than a reliability coordinator, balancing authority, or

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<sup>49</sup> NERC Petition at 30.

transmission operator. The Commission noted that with respect to proposed Reliability Standard PER-005-1, the standard requires transmission operators, reliability coordinators, and balancing authorities to establish a training program for the *company-specific* tasks performed by *its* System Operators.<sup>50</sup> Thus the proposed standard only requires implementation of a training program for operators employed by the applicable entity's own company. Accordingly, the NOPR proposed to direct NERC to modify proposed Reliability Standard PER-005-1 to include a provision that explicitly addresses training for local transmission control centers, consistent with the Commission's directive in Order No. 693.

### **Comments**

58. NERC, and all other commenters that address this issue, object to the Commission's proposal to direct NERC to expand the applicability of PER-005-1 to explicitly include local transmission control center personnel. Some commenters agree with NERC's position, stated in its Petition, that the local transmission control center operators will receive the necessary training without explicitly including them as a class subject to PER-005-1.<sup>51</sup> These commenters are concerned that the Commission's directive will require the creation of a new class of registered entities.

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<sup>50</sup> Reliability Standard PER-005-1, Requirement R1.1 (emphasis added).

<sup>51</sup> See comments of IESO, NRECA, and NV Energy.

59. The majority of commenters<sup>52</sup> state that the term “local transmission control center” is unclear and undefined and, without definition, is subject to broad interpretation. These commenters raise the concern that “if local transmission control center” is not clearly defined, it could result in training requirements applying to non-NERC jurisdictional persons or entities. Commenters appear generally to support a definition that would define local transmission control centers as those which have authority to make decisions concerning the real-time operation of the bulk electric system. Associated Electric proposes a definition of “local transmission control center.”

60. NERC and two other commenters<sup>53</sup> suggest that training requirements for local transmission control center personnel should be developed in a separate project, not as a modification to PER-005-1. NERC advocates developing training standards for local transmission control center personnel in a separate standard because proposed PER-005-1 is focused on improving training requirements for system operators who work for the reliability coordinator, transmission operator, and balancing authority. Further, NERC explains that developing training requirements for these operator personnel in a separate standard will allow that future standard to be modeled after PER-005-1. Accordingly, NERC proposes in its comments to address training requirements for local transmission

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<sup>52</sup> See comments of Associated Electric, Dominion, GSOC & GTC, IESO, ISO/RTO Council, Minnesota Power, Montana Dakota, PG&E, Portland, and SPP.

<sup>53</sup> See comments of APPA and EEI.

control center operator personnel through its standards development process as a separate standards development project, after the Commission issues a final order on PER-005-1.

### **Commission Determination**

61. Some commenters question the original directive in Order No. 693 requiring the development of training requirements for local transmission control center personnel by contending, as IESO does, that if individuals at a local control center are simply implementing directives from a transmission operator or a reliability coordinator, then such personnel should not be required to undergo the same rigorous training meant only for those entities who make independent decisions. Specifically, in Order No. 693, the Commission stated:

The Commission disagrees with those commenters who contend that, because operators at local control centers take direction from NERC-certified operators at the ISO or RTO, they do not need to be addressed by the training requirements of PER-002-0. Rather, as discussed above, these operators maintain authority to act independently to carry out tasks that require real-time operation of the Bulk-Power System including protecting assets, protecting personnel safety, adhering to regulatory requirements and establishing stable islands during system restoration.<sup>54</sup>

Thus, such comments are a collateral attack on Order No. 693 and will not be re-addressed. Issues regarding the rigor or type of training required for operators at local

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<sup>54</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1347.

control centers should be vetted through NERC's standards development process as part of the standards drafting and balloting, and ultimately may be raised in comments in any future Commission proceeding in which the proposed standard(s) or modified standard(s) are before the Commission.

62. 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.

63. NERC proposes in its comments to address the training of local transmission control center operating personnel in a different standard than PER-005-1.<sup>55</sup> The Commission's concern in the NOPR was that local control center operating personnel be trained. We leave it to NERC's discretion whether to revise Reliability Standard PER-005-1 to accomplish this goal or to require local control center operating personnel to be trained in a separate Reliability Standard. The Commission notes that proposed Reliability Standard PER-005-1 generally requires the applicable entity to establish and implement a training program, verify operators' capabilities, and provide emergency training. The specific training, based on the Systematic Approach to Training methodology, is determined by the entity based on company-specific reliability-related tasks performed by its operators. As discussed above, the Systematic Approach to Training methodology is not job specific and, rather, provides flexibility to meet the needs of varying organizations and job skills. In its comments, NERC has said that it intends to generally model local control center operating personnel training on PER-005-1. Thus, we expect that the Reliability Standard that is developed will require training for local transmission control center that does not significantly diverge from the training

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<sup>55</sup> NERC Comments at 15-16.

requirements set forth in PER-005-1. If the ERO proposes a Reliability Standard that differs significantly from the approved PER-005-1 requirements, NERC must provide in its petition seeking approval of such future standard, adequate technical analysis supporting the different approach.

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. We will not evaluate Associated Electric’s proposed definition but, rather, leave it to the ERO to develop an appropriate definition that reflects the scope of local transmission control centers. The Commission will not opine on the appropriate definition of local transmission control center, as this definition can be addressed first using NERC’s Reliability Standards Development Procedures.

**G. Performance Metrics**

65. In Order No. 693, the Commission directed NERC to (1) determine “whether it is feasible to develop meaningful performance metrics associated with the effectiveness of a

training program..., and if so, develop such performance metrics,”<sup>56</sup> and (2) determine if quantifiable performance metrics can be developed to gauge the effectiveness of the Reliability Standard itself.<sup>57</sup> In its Petition, NERC stated that the systematic approach to training methodology, as set forth in proposed Reliability Standard PER-005-1, sub-requirement R1.4, requires each reliability coordinator, balancing authority and transmission operator to conduct an annual evaluation of the training program and assess whether system operators are receiving effective training. NERC concluded that this annual evaluation “provides a meaningful assessment of the training program” while “[a]n evaluation of how System Operators perform during infrequent, actual events on the system would not provide useful metrics on an ongoing basis.”<sup>58</sup> NERC also stated that proposed Reliability Standard PER-005-1 is a training standard, and is not intended to address individual system operator performance apart from the requirements associated with the company-specific reliability-related tasks identified in Requirement R1.

### **NOPR**

66. In the NOPR the Commission sought comment from NERC on whether it considered metrics to evaluate the effectiveness of the Reliability Standard itself, not just metrics to evaluate the effectiveness of the applicable entity’s training program under

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<sup>56</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1394.

<sup>57</sup> *Id.* P 1379.

<sup>58</sup> NERC Petition at 33-34.

PER-005-1. In addition, the Commission sought comment on possible performance metrics that could be used to assess whether proposed Reliability Standard PER-005-1 achieves its stated purpose. As a result, the Commission proposed to direct NERC to evaluate the feasibility of developing meaningful performance metrics to evaluate the effectiveness of the Reliability Standard related to operator training.

### **Comments**

67. NERC notes that it is working to develop performance measures that will address Reliability Standards in general. NERC emphasizes that performance measures should not be embodied in the Reliability Standard requirements so there is room for flexibility in the development, implementation and modification of such measures. Commenters APPA, Minnesota Power, and Montana-Dakota agree with NERC that the development of metrics to evaluate the effectiveness of a NERC Reliability Standard should uniformly apply to all standards, not to individual standards.

68. Two commenters, BG&E and NorthWestern, generally support the Commission's proposal and request that any action taken to explore the feasibility of developing metrics provide for a transparent stakeholder process. NorthWestern identifies three methods for measuring performance: (1) use currently monitored operating parameters and incident reports; (2) capitalize on the capabilities of certain entities to monitor and evaluate the response of subordinate entities; and (3) use simulation to evaluate operator performance against a standard set of operating challenges. NorthWestern suggests that metrics to

evaluate system operators performing real-time tasks should focus on reliability-related tasks that have the greatest commonality across entities and on characteristics of operation that provide insight into the organizational and operational approach to reliability.

69. Most commenters, however, state that performance metrics for this Reliability Standard are either not feasible<sup>59</sup> or not necessary because of the systematic approach to training methodology.<sup>60</sup> For example, Platte River believes that the feasibility of developing meaningful global performance metrics is low. Platte River also believes it is too difficult to establish specific parameters and to monitor trends across entities because systems are topologically unique and operational situations differ. Commenters note that the systematic approach to training addresses the performance metric because its checks and balances verify that a person can perform the task after training.

### **Commission Determination**

70. The Commission believes that performance metrics should be developed to gauge the effectiveness of a Reliability Standard if it is feasible to do so. We are pleased that NERC is working to develop performance measures that will address reliability standards in general. Based on the comments, it appears that it may be infeasible or, at a minimum,

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<sup>59</sup> See comments of APPA, IESO, ITC, KCP&L, NV Energy, and Platte River.

<sup>60</sup> See comments of ISO/RTO Council, MidAmerican, Minnesota Power, Montana-Dakota, PG&E, Portland, and Westar.

impracticable to develop performance metrics for some individual Reliability Standards; e.g., PER-005-1. However, we find that, based on this project, NERC is already in the process of evaluating the feasibility of developing meaningful performance metrics to evaluate the effectiveness of PER-005-1. The Commission encourages NERC to complete its generic performance measures project.

#### **H. Violation Risk Factors/Violation Severity Levels**

##### **NOPR Proposal**

71. In the NOPR, the Commission proposed deferring action on the proposed violation risk factors (VRF) and violation severity levels (VSL) for both of the proposed Reliability Standards until the Commission acts on NERC's pending petition in Docket No. RR08-4-005, in which NERC proposes a "roll-up" approach for VRFs and VSL assignments by which NERC would only assign VRFs and VSLs to the main Requirements and not to the sub-Requirements.<sup>61</sup>

##### **Comments**

72. The ISO/RTO Council, the sole commenter on this issue, supports the Commission's proposal to defer action on the proposed violation risk factors and

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<sup>61</sup> Docket No. RR08-4-005 comprises NERC's March 5, 2010 Violation Severity Level Compliance Filing submitted in response to Order No. 722 and an August 10, 2009 informational filing in which NERC proposes assigning VRFs and VSLs only to the main Requirements in each Reliability Standard and not to the sub-requirements.

violation severity levels assignments. No commenter objected to the proposal to defer action.

### **Commission Determination**

73. The Commission will defer discussion on the proposed violation risk factors and violation severity levels assigned to PER-005-1 and PER-004-2 until after the Commission issues a final order acting on NERC's petition in Docket No. RR08-4-005.

#### **I. Unaddressed Directives**

##### **NOPR Proposal**

74. The Commission noted in the NOPR that NERC, in developing proposed Reliability Standard PER-005-1, did not comply with the directive in Order No. 693 to expand the applicability of the personnel training Reliability Standard, PER-002-0, to include (i) generator operators centrally-located at a generation control center with a direct impact on the reliable operation of the Bulk-Power System, and (ii) operations planning and operations support staff who carry out outage planning and assessments and those who develop System Operating Limits (SOL), Interconnection Reliability Operating Limits (IROL) or operating nomograms for real-time operations.<sup>62</sup> The Commission also directed, in Order No. 693, NERC to consider whether personnel that support Energy Management System (EMS) applications should be included in

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<sup>62</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1393.

mandatory operator personnel training requirements.<sup>63</sup> Noting NERC's proposal to address the expansion of the applicability of the training standard (PER-005-1) and to consider including EMS support personnel in the training standard in a subsequent standards development project, Project 2010-01 – Support Personnel Training, the Commission sought comment on whether NERC should target completing Project 2010-01 by the fourth quarter of 2011.

### **Comments**

75. Twenty-five entities commented on this issue.<sup>64</sup> BPA is the only commenter that believes Project 2010-01 can be completed by fourth quarter 2011. The other commenters, including NERC, state that a fourth quarter 2011 deadline is not reasonable. A number of commenters believe that a 24 month deadline would be an appropriate timeframe for NERC to comply with the Order No. 693 directives.

76. NERC states that, with respect to incorporating generator operators into the applicability section of PER-005-1, it must interact with the Commission to obtain more direction before proceeding with the standards development process. NERC commits in its comments to meeting the directive to consider whether personnel who support EMS

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<sup>63</sup> *Id.* P 1394.

<sup>64</sup> The twenty-five commenters include: APPA, Associated Electric, BGE, BPA, Constellation, Dominion, EEI, E.ON, EPSA, GSOC & GTC, ISO/RTO Council, ITC, KCP&L, Minnesota Power, Montana-Dakota, NV Energy, NERC, NorthWestern, PG&E, Platte River, Portland, SPP, Westar, WECC, and Wisconsin Electric.

applications should be included the mandatory training Reliability Standard within 24 months after August 23, 2010.<sup>65</sup>

77. Other commenters such as APPA and Dominion encourage the Commission to allow Project 2010-01 to follow the natural course of the Reliability Standards development procedures without imposing a specific deadline. APPA notes that, in NERC's draft 2011-2013 Reliability Standards Development Plan, Project 2010-01 is fourteenth of seventeen projects which will be initiated in numerical order. Further, APPA states that NERC's Reliability Standards development "pipeline" is already full to capacity. APPA is concerned that a "hard" deadline for Project 2010-01 might delay ongoing projects. APPA encourages the Commission to collaborate with NERC on the priority for Reliability Standards projects in conjunction with the Reliability Standards Development Plan rather than setting deadlines in individual proceedings.

78. With respect to the Order No. 693 directive to expand training to include operations planning and operations support staff who carry out outage planning and assessments and persons who develop SOLs, IROLs or operating nomograms for real-time operations, several commenters raise issues regarding the substance of the original directive. These issues are beyond the scope of the timing issue the Commission raises in the NOPR. For example, Associated Electric urges the Commission to direct NERC to

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<sup>65</sup> NERC Comments at 21.

adopt a definition of operations planning and operations support staff that more narrowly identifies those personnel who will be subject to the training standard. GSOC and GTC do not support expanding the applicability of the PER-005-1 training requirements to any other personnel. GSOC and GTC further argue that time spent expanding training requirements to other personnel will take away from their job of supporting their operating personnel, a use of time and resources that could actually decrease reliability.

79. With respect to the Order No. 693 directive to expand training to include generator operators centrally-located at a generation control center with a direct impact on the reliable operation of the Bulk-Power System, several commenters raise issues regarding the substance of the original directive. These issues also are beyond the scope of the timing issue the Commission raises in the NOPR. For example, Constellation notes that in developing training requirements for generator operators the Reliability Standard should not create onerous training obligations or impose training requirements that conflict with or make existing programs less effective. E.ON comments that there is no sound basis for imposing the same or similar training requirements mandated for transmission operations on generator personnel. E.ON urges the Commission to weigh the complexity of mandating individual plant-specific training programs against the incremental benefit to Bulk-Power System reliability. EPSA seeks clarification regarding several aspects of the scope and intent of the Commission's directive to expand the applicability of PER-005-1 to include generator operators. Specifically, EPSA asks the

Commission to reaffirm its finding in Order No. 693 that the training will apply only to employees at generator operators' centrally-located dispatch centers or when a single generator and dispatch center are at the same site. EPSA seeks as well Commission guidance regarding the sufficiency and consistency of existing Regional Transmission Organization/Independent System Operator (RTO/ISO) training programs applicable to generator operators with respect to the reliability training needs identified in the NOPR. EPSA also objects to the suggestion in the NOPR that, in the event that communication is lost with the grid operator, a generator operator would take unilateral action for which its personnel would require training.

80. With respect to the Order No. 693 directive that NERC consider whether EMS personnel should be incorporated into the system operator training Reliability Standard, BGE comments that no separate training is needed for EMS personnel, as EMS personnel already are regularly trained. EEI states that, because the skills and functions of EMS personnel are unique, the development of training requirements for EMS support personnel should take place as a separate, stand-alone development project.

#### **Commission Determination**

81. GSOC and GTC, E.ON, and Constellation raise issues regarding the substance and scope of the original Order No. 693 directives. Such comments are a collateral attack on Order No. 693 and will not be re-addressed. Such issues should be vetted through NERC's standards development process as part of the standards drafting and balloting,

and ultimately may be raised in comments in a future Commission proceeding in which the proposed standard(s) or modified standard(s) are before the Commission.

82. Associated Electric expressed concern that the NOPR definition of the “operations planning and operations support staff” who should receive training pursuant to the Order No. 693 directive is “broad and will encompass operations planning and operation support staff who engage in tasks that do not directly affect the reliable operation of the bulk electric system.”<sup>66</sup> The Commission clarifies that the scope of the Reliability Standard or modification to a Reliability Standard to address training for “operations planning and operations support staff” is limited by the qualifications stated in Order No. 693. Specifically, in Order No. 693, the Commission directed the ERO to develop a modification to PER-002-0 that extends applicability of the training requirements to the operations planning and operations support staff of transmission operators and balancing authorities.<sup>67</sup> The Commission further clarified that such directive applies *only* to operations planning and operations support 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 IROLs or operating

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<sup>66</sup> Associated Electric’s Comments at 6. Associated Electric states that, in the NOPR, the Commission “defines” operations planning and operations support staff as persons “who carry out outage planning and assessments and those who develop SOLs and IROLs, or operating nomograms for real-time operations.”

<sup>67</sup> Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1393.

nomograms in accordance with Reliability Standards IRO-005-1 and TOP-004-0.”<sup>68</sup> The NOPR did not expand or alter the scope of this directive as set forth in Order No. 693.

83. EPISA requests clarification of several statements in the NOPR regarding the Order No. 693 directive related to expanding the applicability of the system operator training Reliability Standard to include certain generator operators. First, EPISA expresses concern that the NOPR discussion broadly addresses generator operator personnel in a way that could be construed as subjecting all generator operator personnel, regardless of the disposition of the generating unit and how it fits into the grid and the topology of the grid, to the system operator training requirements. Therefore EPISA seeks clarification that the Commission did not intend for the NOPR to expand the Order No. 693 directive. We confirm that we have not modified the scope of applicability of the Order No. 693 directive regarding generator operator training.<sup>69</sup> As described in Order No. 693, the directive applies to generator operator personnel at a centrally-located dispatch center who receive direction and then develop specific dispatch instructions for plant operators under their control. Those generator operator personnel must receive formal training of the nature provided to system operators under PER-005-1.<sup>70</sup> As clarified in Order No. 693, this group of personnel would include a generator operator’s

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<sup>68</sup> *Id.* P 1372.

<sup>69</sup> *See id.* P 1359-61.

<sup>70</sup> *See id.* P 1360.

dispatch personnel where a single generator and dispatch center are located at the same site.<sup>71</sup>

84. EPSA also seeks clarification regarding the statement in the NOPR that: “[I]n the event communication is lost, the generator operator personnel must have had sufficient training to take appropriate action to ensure reliability of the Bulk-Power System.”<sup>72</sup>

EPSA expresses concern that this statement suggests that if communication is lost with the grid operator, the generator operator must take unilateral action for which it requires training. EPSA notes that generator operators do not take such unilateral action nor do they have access to information to make such decisions. Therefore, EPSA asks the Commission to make clear that while communication should be addressed in training requirements for centrally located generator operator dispatch employees, the Commission is not extending related responsibilities or training requirements to generator operator employees. We grant the requested clarification, and affirm that we are not modifying the Order No. 693 directive regarding training for certain generator operator dispatch personnel, nor are we expanding a generator operator’s responsibilities.<sup>73</sup>

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<sup>71</sup> *Id.* P 1361.

<sup>72</sup> NOPR, FERC Stats. & Regs. ¶ 32,661 at P 58.

<sup>73</sup> *See* Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1359-65.

85. EPSA also raises the issue of potentially overlapping or duplicative training programs. EPSA notes that training requirements already exist in organized markets and compliance with them is a condition for market participation, citing PJM and CAISO as examples, and asserts that new training requirements should either mesh with or build upon those already in place. EPSA further notes that regional transmission organizations and independent system operators have training programs for generator operators that ensure that grid participants are well trained on grid operations and the needs of grid operators. EPSA believes that any modified or new Reliability Standard related to generator operator training should not conflict with or supplant the organized markets' existing training requirements. Accordingly, EPSA states that the Commission's "acknowledgment of these existing programs and how they might fit with the expansion of PER-005-1 would provide useful guidance for Project 2010-01."<sup>74</sup> The Commission believes that, in the above-discussion regarding the systematic approach to training, the systematic approach to training methodology is flexible enough to build on existing training programs by validating and supplementing the existing training content, where necessary, using systematic methods.<sup>75</sup> It is important that the relevant generator operator personnel receive the necessary training. Our determination is not intended to

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<sup>74</sup> EPSA Comments at 8.

<sup>75</sup> *See supra* at P 45 & n.40.

limit the source of that training, provided that it meets the requirements of the Reliability Standard.

86. With respect to the time frame within which NERC should complete the unaddressed training directives, the Commission recently issued an order on NERC's three year assessment.<sup>76</sup> That order requires NERC to identify and address all Reliability Standards prioritization matters when submitting its annual Reliability Standard Development plan, beginning with the plan for 2012.<sup>77</sup> The Commission recognizes the importance of a collaborative approach to setting priorities for Reliability Standard projects and NERC's need for flexibility in setting project priorities in order to efficiently utilize the technical expertise available to NERC's standards drafting teams. We anticipate that NERC will include this project in its assessment of its Reliability Standards priorities. With respect to the Order No. 693 directive to consider whether personnel that support EMS applications should be included in the training Reliability Standard, we accept NERC's commitment to satisfy this directive by August 23, 2012.

### **III. Information Collection Statement**

87. The following collections of information contained in this proposed rule have been submitted to the Office of Management and Budget (OMB) for review under

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<sup>76</sup> *North American Electric Reliability Corporation*, 132 FERC ¶ 61,217 (2010).

<sup>77</sup> *Id.* P 102.

section 3507(d) of the Paperwork Reduction Act of 1995.<sup>78</sup> OMB's regulations require OMB to approve certain information collection requirements imposed by agency rule.<sup>79</sup>

88. The Commission solicited comments on the need for and the purpose of the information contained in these two Personal Performance, Training and Qualification Reliability Standards and the corresponding burden to implement them. The Commission received comments on specific requirements in the Reliability Standards, which we address in this Final Rule. The Commission has not directed any modifications to the Requirements in the two Reliability Standards being approved. Thus, the Final Rule does not materially or adversely affect the burden estimates provided in the NOPR.

89. However, the Commission received comments on our reporting burden estimates. Of the twenty-eight entities that filed comments on the NOPR, two entities, the ISO/RTO Council and Westar, comment on the record keeping burden. Both the ISO/RTO Council and Westar note that proposed Reliability Standard PER-005-1 includes a new requirement that applicable entities use a systematic approach to training which includes

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<sup>78</sup> 44 U.S.C. 3507(d).

<sup>79</sup> 5 CFR 1320.11.

record-keeping requirements (including a job-task-analysis) that are significantly greater than the Commission's estimates provided in the NOPR. In addition, the ISO/RTO Council asserts that Reliability Standard PER-005-1, as submitted, more than adequately covers appropriate record keeping requirements. With respect to the estimate of the record-keeping requirements, in the NOPR, the Commission considered the inclusion of a systematic approach to training requirement when developing the record-keeping estimates. Moreover, neither commenter provides an estimate of the record-keeping burden. The Commission finds that the two commenters did not provide sufficient information to support increasing the record keeping burden estimates. With respect to the ISO/RTO Council's assertion that PER-005-1, as submitted, more than adequately covers appropriate record keeping requirements, this issue is moot as this final rule does not require NERC to make any modifications to PER-005-1.

90. Burden Estimate: The public reporting and records retention burdens for the proposed reporting requirements and the records retention requirement are as follows:

Data Collection	No. of New Respondents	No. of Responses	Record-keeping <sup>80</sup> Hours Per Respondent	Total Annual Record-keeping Hours
PER-005-1, R1.1: RCs, TOs, and BAs must create a list of bulk electric system reliability-related tasks performed by system operators.	7 <sup>81</sup>	7	40	280
PER-005-1, R1.2: RCs, TOs, and BAs shall design and develop learning objectives and training materials based on its task list.	7	7	60	420
PER-005-1, R2: RCs, TOs, and BAs shall verify system operators' ability to perform each assigned task from applicable task list.	7	7	80	560
PER-005-1, M1: RCs, TOs, and BAs must have available for inspection evidence of using a systematic approach to training to establish and implement a training program.	7	7	50	350
PER-005-1, M1.1: Each RC, TO, and BA must have available for inspection its company-specific, reliability-related task list.	7	7	10	70

<sup>80</sup> The proposed Reliability Standards do not impose any reporting requirements.

<sup>81</sup> Only seven of the 16 registered reliability coordinators are not currently subject to training requirements as balancing authorities.

PER-005-1, M1.2: Each RC, TO, and BA must have available for inspection its learning objectives and training materials.	7	7	10	70
PER-005-1, M1.3: RCs, TOs, and BAs must have available for inspection system operator training records.	7	7	10	70
PER-005-1, M1.4: Each RC, TO, and BA must have available for inspection evidence that it performed an annual training program evaluation.	7	7	25	175
PER-005-1, M2: Each RC, TO, and BA must have available for inspection evidence that it verified that its system operators can perform each assigned task from the training task list.	7	7	20	140
PER-005-1, M3: RCs, TOs, and BAs must have available for inspection their annual training records evidencing that each system operator received 32 hours of emergency operations training.	7	7	20	140
PER-005-1, M3.1: RCs, TOs, and BAs must have available for inspection training records evidencing that each system operator received emergency training using simulation technology.	7	7	20	140
Total				2415 Hours

- Total Annual hours for Collection: Recordkeeping = Total Hours.

Information Collection Costs: Recordkeeping = 2415 hours @ \$120/hour<sup>82</sup> = \$289,800.

- Total costs = \$289,800.
- Title: Mandatory Reliability Standards for the Bulk-Power System
- Action: Proposed Collection of Information
- OMB Control No: 1902-0244
- Respondents: Business or other for profit, and/or not for profit institutions.
- Frequency of Responses: On occasion.
- Necessity of the Information: This final rule would approve revised Reliability Standards that modify the existing requirement for entities to develop training programs and train certain personnel. The Reliability Standards require entities to maintain their training materials and training records subject to review by the Commission and NERC to ensure compliance with the Reliability Standards.
- Internal review: The Commission has reviewed the requirements pertaining to the Reliability Standards for the Bulk-Power System and determined that the Requirements are necessary to meet the statutory provisions of the Energy Policy Act of 2005. These requirements conform to the Commission's plan for efficient information collection,

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<sup>82</sup> This hourly rate reflects the hourly rate for engineers based on information provided to the Commission in Docket No. RM08-13. *See Transmission Relay Loadability Reliability Standard*, 130 FERC ¶ 61,221, at P 327 (2010) (Final Rule).

communication and management within the energy industry. The Commission has assured itself, by means of internal review, that there is specific, objective support for the burden estimates associated with the information requirements.

91. Interested persons may obtain information on the reporting requirements by contacting the following: Federal Energy Regulatory Commission, 888 First Street, NE Washington, DC [Attention: Ellen Brown, Office of the Executive Director, Phone: (202) 502-8663, fax: (202) 273-0873, e-mail: [DataClearance@ferc.gov](mailto:DataClearance@ferc.gov)]. Comments on the requirements of this order may also be sent to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503 [Attention: Desk Officer for the Federal Energy Regulatory Commission]. For security reasons, comments should be sent by e-mail to OMB at [oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov). Please reference FERC-725A and the docket number of this final rule in your submission.

#### **IV. Environmental Analysis**

92. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant adverse effect on the human environment.<sup>83</sup> The actions taken in this Final Rule fall within the categorical exclusion in the Commission's regulations for rules that are clarifying,

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<sup>83</sup> Order No. 486, *Regulations Implementing the National Environmental Policy Act*, 52 FR 47897 (Dec. 17, 1987), FERC Stats. & Regs. Preambles 1986-1990 ¶ 30,783 (1987).

corrective or procedural, for information gathering, analysis, and dissemination.<sup>84</sup>

Accordingly, neither an environmental impact statement nor environmental assessment is required.

**V. Regulatory Flexibility Act**

93. The Regulatory Flexibility Act of 1980 (RFA)<sup>85</sup> generally requires a description and analysis of final rules that will have significant economic impact on a substantial number of small entities. Most of the entities, i.e., reliability coordinators, transmission operators, and balancing authorities, to which the requirements of this rule would apply do not fall within the definition of small entities.<sup>86</sup> Moreover, the proposed Reliability Standards reflect a continuation of existing training requirements for transmission operators and balancing authorities and are “new” only with respect to reliability coordinators.

94. As indicated above, based on available information regarding NERC’s compliance registry, approximately seven entities will be responsible for compliance with proposed Reliability Standards PER-004-2 and PER-005-1 that were not already subject to the

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<sup>84</sup> 18 CFR 380.4(a)(5).

<sup>85</sup> 5 U.S.C. 601-612.

<sup>86</sup> The RFA definition of “small entity” refers to the definition provided in the Small Business Act (SBA), which defines a “small business concern” as a business that is independently owned and operated and that is not dominant in its field of operation. *See* 15 U.S.C. 632. According to the SBA, a small electric utility is defined as one that has a total electric output of less than four million MWh in the preceding year.

existing Reliability Standards comprising the same base training requirements as contained in the new Reliability Standards. The Commission does not consider this a substantial number. Further, few if any of the seven reliability coordinators are small entities. Based on the foregoing, the Commission certifies that this Final Rule will not have a significant impact on a substantial number of small entities. Accordingly, no regulatory flexibility analysis is required.

#### **VI. Document Availability**

95. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through FERC's Home Page (<http://www.ferc.gov>) and in FERC's Public Reference Room during normal business hours (8:30 a.m. to 5:00 p.m. Eastern time) at 888 First Street, NE, Room 2A, Washington DC 20426.

96. From FERC's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

97. User assistance is available for eLibrary and the FERC's website during normal business hours from FERC Online Support at (202) 502-6652 (toll free at 1-866-208-

3676) or email at [ferconlinesupport@ferc.gov](mailto:ferconlinesupport@ferc.gov), or the Public Reference Room at (202) 502-8371, TTY (202) 502-8659. E-mail the Public Reference Room at [public.referenceroom@ferc.gov](mailto:public.referenceroom@ferc.gov).

## **VII. Effective Date and Congressional Notification**

98. These regulations are effective [insert date that is 60 days from publication in the **FEDERAL REGISTER**]. The Commission notes that although the determinations made in this Final Rule are effective [insert date that is 60 days from publication in the **FEDERAL REGISTER**], Reliability Standard PER-004-2 approved in this final rule will not become effective until the first day of the first calendar quarter after regulatory approval and that Reliability Standard PER-005-1 approved in this final rule will become effective on a staggered basis, as identified in Appendix B, with the earliest effective date being first day of the first calendar quarter after regulatory approval for PER-005-1, Requirement R3. The Commission has determined, with the concurrence of the Administrator of the Office of Information and Regulatory Affairs of OMB, that this Rule is not a “major rule” as defined in section 351 of the Small Business Regulatory Enforcement Fairness Act of 1996.

By the Commission.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.

### Appendix A: Commenting Party Acronyms

<b>Abbreviation</b>	<b>Commenter</b>
APPA	American Public Power Association
Associated Electric	Associated Electric Cooperative, Inc.
BGE	Baltimore Gas and Electric Co.
BPA	Bonneville Power Administration
Constellation	Constellation Power Source Generation, Inc., Constellation Energy Commodities Group, Inc., Constellation NewEnergy, Inc., and Constellation Energy Nuclear Group, LLC
Dominion	Dominion Resources Services, Inc. on behalf of its affiliates
EEI	Edison Electric Institute
E.ON	E.ON U.S. LLC
EPSA	Electric Power Supply Association
GSOC & GTC	Georgia System Operations Corp. and Georgia Transmission Corp.
IESO	Ontario Independent Electricity System
ISO/RTO Council	ISO/RTO Council
ITC	International Transmission Company d/b/a <i>ITCTransmission</i> , Michigan Electric Transmission Company, LLC, ITC Midwest LLC, and ITC Great Plains, LLC
KCP&L	Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company
MidAmerican	MidAmerican Energy Holdings Company
Minnesota Power	Minnesota Power
Montana-Dakota	Montana-Dakota Utilities Co.
NRECA	National Rural Electric Cooperative Assoc.
NV Energy	Nevada Power Company and Sierra Pacific Power Co.
NERC	North American Electric Reliability Corporation
NorthWestern	NorthWestern Corp d/b/a/ NorthWestern Energy
PG&E	Pacific Gas and Electric Co.
Platte River	Platte River Power Authority
Portland	Portland General Electric Co.
SPP	Southwest Power Pool, Inc.
Westar	Westar Energy, Inc. and Kansas Gas and Electric Co.
WECC	Western Electricity Coordinating Council
Wisconsin Electric	Wisconsin Electric Power Co.

## Appendix B

**Coordination of Retirement and Effective Dates Table**

<b>Existing Approved Standard</b>	<b>Requirement to be retired or replaced</b>	<b>Proposed Standard</b>	<b>New Requirement to be implemented</b>	<b>Date for concurrent retirement and implementation</b>
PER-002-0          PER-004-1	R1 R2 R3 R3.1 R3.2 R3.3 R3.4  R3 R4	PER-005-1	R1 R1.1 R1.1.1 R1.2 R1.3 R1.4 R2 R2.1	1st calendar quarter 24 months after regulatory approval
PER-002-0  PER-004-1	R4  R2	PER-005-1	R3	1st day of 1st calendar quarter after regulatory approval
PER-004-1	R1 R5	PER-004-2	R1 R2	1st day of 1st calendar quarter after regulatory approval
N/A	N/A	PER-005-1	R3.1	1st day of 1st calendar quarter 36 months after regulatory approval