

Implementation Plan

Project 2010-01 Operations Personnel Training

Implementation Plan for PER-005-2 – Operations Personnel Training

Approvals Required

PER-005-2 – Operations Personnel Training

Prerequisite Approvals

There are no other standards that must receive approval prior to the approval of this standard.

Revisions to Glossary Terms

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms (Glossary) are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, ~~this/these~~ defined ~~term/terms~~ will be removed from the individual standard and added to the Glossary.

System Operator: An individual at a ~~control-center~~Control Center of a Reliability Coordinator, Balancing Authority, or Transmission Operator, ~~or Reliability Coordinator~~ who operates or directs the operation of the Bulk Electric System in Real-time.

~~Other Definitions Used within the Standard~~

~~The following terms are defined for use only within PER-005-2 and, upon approval of the standard, will not be moved to the NERC Glossary of Terms:~~

~~**System Personnel:** System Operators of a Reliability Coordinator, Transmission Operator or Balancing Authority, and the Transmission Owner personnel described in the Applicability Section of this standard.~~

~~**Operations Support Personnel:** Individuals, ~~as identified by the Reliability Coordinators, Balancing Authorities, Transmission Operators or Transmission Owners,~~ who perform current day or next day outage coordination or assessments, or who determine SOLs, IROLs, or operating nomograms,¹ in direct support of Real-time, ~~reliability related tasks performed by System Operators,~~ operations of the Bulk Electric System.~~

¹ Nomograms are used in the WECC Region to describe element operating limits.

Other Definitions Used within the Standard

None

Applicable Entities

- Reliability Coordinator
- Balancing Authority
- Transmission Operator
- Transmission Owners that ~~have~~has personnel ~~at a facility~~, excluding field switching personnel, who can act independently to ~~carry out tasks that require Real-time operate or direct the operation of the Transmission Owner's Bulk Electric System, including protecting assets, protecting personnel safety, adhering to regulatory requirements and establishing stable islands during system restoration.~~ transmission facilities in Real-time
- Generator Operators that have dispatch personnel at a centrally located dispatch center who receive direction from ~~their~~the Generator Operator's Reliability Coordinator, Balancing Authority, Transmission Operator, or Transmission Owner and may develop specific dispatch instructions for plant operators under their control. These personnel ~~do~~do not include plant operators located at a generator plant site or personnel at a centrally located dispatch center who relay dispatch instructions, without making any modifications.

Applicable Facilities

None

Conforming Changes to Other Standards

None

Effective Dates

PER-005-2 shall become effective as follows:

This standard shall become effective the first day of the first calendar quarter that is 24 months beyond the date that this standard is approved by an applicable governmental authority or is otherwise provided for in a jurisdiction where approval by an applicable authority is required for a standard to go into effect.

Where approval by an applicable governmental authority is not required, this standard shall become effective on the first day of the first calendar quarter that is 24 months after the date the standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

Actions to be Completed as of the Effective Date:

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An implementation period provides time for an entity to become compliant with the standard prior to the standard becoming enforceable. This section describes the actions requirements that an entity must complete be compliant with as of the effective enforceable date of PER-005-2. This section does not address evidence of compliance; see measures, compliance input and RSAWs for further information regarding possible evidence.

Requirement R1:

~~R1: An entity Reliability Coordinators, Balancing Authorities, and Transmission Operators must have completed the requirements for PER-005-2 Requirement R1 as of the enforceable date of the standard as provided below. Note that these entities are subject to PER-005-1.~~

~~R1: Entities must have developed and implemented a training program that is based on for its System Operators using a systematic approach to training.~~

~~1:~~

~~1: An entity. 1: Entities must have defined and documented its methodology for creating a list of Bulk Electric System (BES) company-specific Real-time reliability-related tasks, and must have a list of these tasks.~~

~~1.1.1: 1: Entities already subject to PER-005-1 (RC, BA and TOP) must conduct have conducted a review of its tasks list once in the calendar year that this standard becomes effective; however enforceable.~~

~~Note: this review may be conducted either under the existing standard (PER-005-1) prior to the effective date of proposed standard (PER-005-2) or under the proposed standard (PER-005-2) after it becomes effective enforceable, as long as the entity conducts one review during the calendar year.~~

~~Entities that were not previously subject to PER-005-1 would not be expected to have conducted a review prior to the effective date of the proposed standard, or in the calendar year that the proposed standard becomes effective. The entity's first review would occur in the first calendar year following the effective date of this standard.~~

~~1.2: An entity must have completed the design and development of training materials as necessary under its training program as of the enforceable date of PER-005-2. An entity is not obligated to have designed and developed training materials for all future training.~~

~~1.3: Entities must have delivered training in accordance with their training program as of the enforceable date of PER-005-2.~~

~~1.4: Entities must have conducted an evaluation once in the calendar year that PER-005-2 becomes enforceable.~~

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Note: this may be conducted either under PER-005-1 or under PER-005-2 after it becomes enforceable, as long as the entity conducts one evaluation during the calendar year.

Requirement R2:

-R2: Applicable Transmission Owners must have developed and implemented a training program for its applicable personnel using a systematic approach.

2.1: An applicable Transmission Owner must have defined and documented its methodology for creating a list of BES company-specific Real-time reliability-related tasks, and must have a list of these tasks as of the enforceable date of PER-005-2.

2.1.1: As applicable Transmission Owners were not previously subject to PER-005-1, they would not be required to have conducted a review prior to the enforceable date of the proposed standard or in the calendar year that the proposed standard becomes enforceable. The entity's first required evaluation would occur within the first calendar year following the enforceable date of PER-005-2.

2.2: An applicable Transmission Owner must have completed the design and development of training materials according to its training program as of the enforceable date of PER-005-2. An entity is not obligated to have designed and developed training materials for all future training.

2.3: Entities already subject to PER-005-1 must continue to implement training in accordance with its existing training program.

Entities that As applicable Transmission Owners were not previously subject to PER-005-1, they must begin to implement training in accordance with its training program as of the effective/enforceable date. Under the standard, such/these entities are not expected/required to have delivered training prior to the effective/enforceable date.

2.4: Entities already subject to PER-005-1 (RC, BA and TOP) must conduct an evaluation once in the calendar year that this standard becomes effective; however this may be conducted either under the existing standard (PER-005-1) prior to the effective date of the proposed standard (PER-005-2) or under the proposed standard after it becomes effective.

Entities that As applicable Transmission Owners were not previously subject to PER-005-1, they would not be expected/required to have conducted an evaluation prior to the effective/enforceable date of the proposed standard or in the calendar year that the proposed standard becomes effective/enforceable. The entity's first required evaluation would occur in/within the first calendar year following the effective/enforceable date of the proposed standard/PER-005-2.

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Requirement R2:

~~R2: Entities already subject to PER-005-1 (RC, BA and TOP) must have verified their System Personnel's³ capabilities to perform each of its assigned Real-time reliability-related tasks, at least once.~~

~~Entities that were not previously subject to PER-005-1 must have verified its System Personnel's capabilities to perform each of its assigned Real-time reliability-related tasks, at least once, as identified in Requirement R1 part 1.1, prior to the effective date of the standard.~~

~~2.1: Entities already subject to PER-005-1 (RC, BA and TOP) must have, within six months, verified its System Personnel's capabilities to perform a new or modified Real-time reliability-related task identified Requirement R1 part 1.1 pursuant to PER-005-1.~~

~~Entities that were not previously subject to PER-005-1 would not be expected to have verified its System Personnel's capabilities to perform a new or modified Real-time reliability-related task identified under Requirement R1 part 1.1 prior to the effective date of the standard. This requirement pertains to reliability-related tasks that are new or modified following the effective date of this standard.~~

Requirement R3:

~~R3: Entities Reliability Coordinators, Balancing Authorities, Transmission Operators and Transmission Owners must have verified the capabilities of its personnel identified in Requirements R1 and R2 to perform each of its assigned BES company-specific Real-time reliability-related tasks, at least once, as of the enforceable date of PER-005-2.~~

~~3.1: Reliability Coordinators, Balancing Authorities, and Transmission Operators that are already subject to PER-005-1 (RC, BA and TOP) must have completed training using simulation technology according to its training program under the existing standard (PER-005-1) and must are required to, within six months of a change to its task list, have verified the capabilities of its personnel identified in Requirement R1 to perform each new or modified BES company-specific Real-time reliability-related tasks identified in Requirement R1 part 1.1. These entities will continue to provide training using simulation technology according to its training program have the time allotted to complete the verification under PER-005-1 after the effective/enforceable date of the proposed standard (PER-005-2).~~

~~Entities that Because Transmission Owners were not previously subject to PER-005-1 (TO) must begin to implement training using simulation technology according to its training program as of the effective date. Under the standard, these entities, they are not expected to have delivered~~

³ As used in this standard, the term "System Personnel" is defined as System Operators of a Reliability Coordinator, Transmission Operator or Balancing Authority, and the Transmission Owner personnel described in the Applicability Section of this standard.

simulation training verified the capabilities of its personnel identified in Requirement R2 to perform a new or modified BES company-specific Real-time reliability-related tasks identified under Requirement R2 part 2.1 prior to the effective/enforceable date.

3.1: — Entities already subject to PER-005-1 (RC, BA and TOP) that gained operational authority or control over Facilities with established IROLs or has established operating guides or protection systems to mitigate IROL violations must have provided each System Operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions prior to the effective date.

Entities that were not previously subject to PER-005-1 are not required to have completed this action prior to the effective date of the standard. This requirement pertains to ***IROLs*** BES company-specific reliability-related tasks that are ***gained following*** newly identified or modified after the ***effective/enforceable*** date of ***this standard.*** —PER-005-2.

Requirement R4:

R4: — The personnel identified in this requirement were not previously subject to PER-005-1. The entities (RC, BA, TOP and TO) must have established a training program for their Operations Support Personnel³ and must have begun to implement training in accordance with their training program as of the effective date. Under the standard, entities are not expected to have delivered or developed material for all future training identified in its training program prior to the effective date.

4.1: — The personnel identified in this requirement were not previously subject to PER-005-1 and the entities are not required to have conducted a review prior to the effective date. The entity's first review of the training for its Operations Support Personnel would occur in the first calendar year following the effective date of this standard.

³ As used in this standard, the term "Operations Support Personnel" is defined as Individuals, as identified by the Reliability Coordinators, Balancing Authorities, Transmission Operators, or Transmission Owners, who perform outage coordination or assessments, or who determine SOLs, IROLs, or operating nomograms, in direct support of Real-time, reliability-related tasks performed by System Operators.

R4: Reliability Coordinators, Balancing Authorities, Transmission Operators and Transmission Owners must be providing training using the simulation technologies described in Requirement R4 according to its training program as of the date PER-005-2 becomes enforceable.

4.1: Entities that do not meet the criteria set forth in Requirement R4 prior to the enforceable date of the standard are required to comply with Requirement R4 within 12 months of meeting the criteria.

Requirement R5:

R5: Generator Operators were not previously subject to PER-005-1. Generator Reliability Coordinators, Balancing Authorities, and Transmission Operators must have established its developed training program, using a systematic approach, for their Operations Support Personnel on the impact of their job function(s) to those BES company-specific Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and must have begun to implement implemented that training in accordance with according to its training programs systematic approach as of the effective date. Under the standard, Generator Operators are not expected to have delivered or developed material for all future training identified in its training program prior to the effective date-enforceable date of PER-005-2.

5.1: Generator Operators As Operations Support Personnel were not previously subject to PER-005-1 and, they are would not be required to have conducted a review an evaluation prior to the effective date. The Generator Operators' first review enforceable date of the proposed standard or in the calendar year that the proposed standard becomes enforceable. The entity's first required evaluation would occur in within the first calendar year following the effective enforceable date of PER-005-2.

Requirement R6:

R6: Generator Operators must have developed training, using a systematic approach, for their applicable personnel on the impact of their job function(s) to the reliable operations of the BES during normal and emergency operations and must have implemented that training according to its systematic approach as of the enforceable date of this standard.—PER-005-2.

6.1: As Generator Operators were not previously subject to PER-005-1, they would not be required to have conducted an evaluation prior to the enforceable date of the proposed standard or in the calendar year that the proposed standard becomes enforceable. The entity's first required evaluation would occur within the first calendar year following the enforceable date of PER-005-2.

Justification

The 24-month period for implementation of PER-005-2 will provide sufficient time for the applicable entities to make necessary modifications to their systematic approach to training and, for entities not

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yet subject to the standard, time to develop a systematic approach to training that is compliant with the proposed standard. This time frame is consistent with the 24-month implementation period FERC approved for PER-005-1 to allow for Reliability Coordinators, Balancing Authorities, and Transmission Operators to develop a systematic approach to training. The standard drafting team concluded that the same timeframe (24-months) should be provided to the new applicable entities and for the entities currently subject to PER-001-1 to development training for their Operations Support Personnel.

Retirements

PER-005-1 – System Personnel Training should be retired at 11:59:59 pm of the day immediately prior to the effective/enforceable date of PER-005-2 in the particular jurisdiction in which the new standard is becoming effective/enforceable. For entities that are completing actions under Requirement R3.1 of PER-005-1, this requirement will remain in effect until the time allotted under the requirement has expired.

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Attachment 1
Approved Standards Incorporating the Term “System Operator”

- EOP-005-2 — System Restoration from Blackstart Resources
- EOP-006-2 — System Restoration Coordination
- EOP-008-1 — Loss of Control Center Functionality
- IRO-002-3 — Reliability Coordination – Analysis Tools
- IRO-014-1 — Procedures, Processes, or Plans to Support Coordination between Reliability Coordinators
- MOD-008-1 — TRM Calculation Methodology
- MOD-020-0 — Providing Interruptible Demands and DCLM Data
- PER-003-1 — Operation Personnel Credentials
- PRC-004-WECC-1 – Protection System and Remedial Action Scheme Maintenance and Testing
- PRC-023 -2 — Transmission Relay Loadability

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