

Project 2010-01 Operations Personnel Training PER-005-2 Mapping Document

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
<p>R1. Reliability Coordinator, Balancing Authority and Transmission Operator shall use a systematic approach to training to establish a training program for the BES company-specific reliability-related tasks performed by its System Operators and shall implement the program.</p> <p>1.1. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall create a list of BES company-specific reliability-related tasks performed by its System Operators.</p> <p>1.1.1. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall update its list of BES company-specific reliability-related tasks performed by its System Operators each calendar year to</p>	<p>Requirement R1 parts 1.1.1., 1.1., 1.2., 1.3., and 1.4.</p>	<p>R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall use a systematic approach to develop and implement a training program for its System Operators as follows: <i>[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]</i></p> <p>1.1 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall create a list of Bulk Electric System (BES) company-specific Real-time reliability-related tasks based on a defined and documented methodology.</p> <p>1.1.2 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall review, and update if necessary, its list of BES company-specific Real-time reliability-related tasks identified in part 1.1 each calendar year.</p>

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
<p>identify new or modified tasks for inclusion in training.</p> <p>1.2. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall design and develop learning objectives and training materials based on the task list created in R1.1.</p> <p>1.3. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall deliver the training established in R1.2.</p> <p>1.4. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall conduct an annual evaluation of the training program established in R1, to identify any needed changes to the training program and shall implement the changes identified.</p>		<p>1.2 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall design and develop training materials according to its training program, based on the BES company-specific Real-time reliability-related task list created in part 1.1.</p> <p>1.3 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall deliver training to its System Operators according to its training program.</p> <p>1.4 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall conduct an evaluation each calendar year of the training program established in Requirement R1 to identify any needed changes to the training program and shall implement the changes identified.</p>
<p>R2. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall verify each of its System Operator’s capabilities to perform each assigned task identified in R1.1 at least one time.</p>	<p>The old Requirement R2 is now Requirement R3.</p>	<p>R3. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall verify, at least once, the capabilities of its personnel, identified in Requirement R1 or Requirement R2, assigned to perform each of the BES company-specific Real-time reliability-related tasks identified under</p>

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
<p>2.1. Within six months of a modification of the BES company-specific reliability-related tasks, each Reliability Coordinator, Balancing Authority and Transmission Operator shall verify each of its System Operator’s capabilities to perform the new or modified tasks.</p>		<p>Requirement R1 part 1.1 or Requirement R2 part 2.1. <i>[Violation Risk Factor: High] [Time Horizon: Long-term Planning]</i></p> <p>3.1 Within six months of a modification or addition of a BES company-specific Real-time reliability-related task, each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall verify the capabilities of each of its personnel identified in Requirement R1 or Requirement R2 to perform the new or modified BES company-specific Real-time reliability-related tasks identified in Requirement R1 part 1.1 or Requirement R2 part 2.1.</p>
<p>R3. At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system</p>	<p>This Requirement has been updated with deleting R3 and moving 3.1 from the approved standard to be the new R4. Part 4.1 in the proposed standard it</p>	<p>R4. Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner that (1) has operational authority or control over Facilities with established Interconnection Reliability Operating Limits (IROLs), or (2) has established protection systems or operating guides to mitigate IROL violations, shall provide its personnel identified in Requirement R1 or</p>

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
<p>restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>3.1. Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational authority or control over Facilities with established IROLs or has established operating guides or protection systems to mitigate IROL violations shall provide 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.</p>	<p>addresses the implementation of simulation technology.</p>	<p>Requirement R2 with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES. <i>[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]</i></p> <p>4.1. A Reliability Coordinator, Balancing Authority, Transmission Operator, or Transmission Owner that did not previously meet the criteria of Requirement R4, shall comply with Requirement R4 within 12 months of meeting the criteria.</p>
	<p>This requirement is new to PER-005-2.</p>	<p>R2. Each Transmission Owner shall use a systematic approach to develop and implement a training program for its personnel identified in Applicability Section 4.1.4.1 of this standard as follows: <i>[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]</i></p>

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
		<p>2.1 Each Transmission Owner shall create a list of BES company-specific Real-time reliability-related tasks based on a defined and documented methodology.</p> <p>1.1.2 Each Transmission Owner shall review, and update if necessary, its list of BES company-specific Real-time reliability-related tasks identified in part 2.1 each calendar year.</p> <p>2.2 Each Transmission Owner shall design and develop training materials according to its training program, based on the BES company-specific Real-time reliability-related task list created in part 2.1.</p> <p>2.3 Each Transmission Owner shall deliver training to its personnel identified in Applicability Section 4.1.4.1 of this standard according to its training program.</p> <p>2.4 Each Transmission Owner shall conduct an evaluation each calendar year of the training program established in Requirement R2 to identify any needed changes to the training program and shall implement the changes identified.</p>

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
	This requirement is new to PER-005-2.	<p>R5. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall use a systematic approach to develop and implement training for its identified Operations Support Personnel on how their job function(s) impact those BES company-specific Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1. <i>[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]</i></p> <p>5.1 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall conduct an evaluation each calendar year of the training established in Requirement R5 to identify and implement changes to the training.</p>

PER-005-1 Mapping to Proposed NERC Reliability Standard PER-005-2

Standard PER-005-1 NERC Board Approved	Transitions to the below Requirement in New Standard or Other Action	Proposed Standard PER-005-2
	<p>This requirement is new to PER-005-2.</p>	<p>6. Each Generator Operator shall use a systematic approach to develop and implement training to its personnel identified in Applicability Section 4.1.5.1 of this standard, on how their job function(s) impact the reliable operations of the BES during normal and emergency operations. <i>[Violation Risk Factor: Medium]</i> <i>[Time Horizon: Long-term Planning]</i></p> <p>6.1. Each Generator Operator shall conduct an evaluation each calendar year of the training established in Requirement R6 to identify and implement changes to the training.</p>