

## 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><b>R1.</b> 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><b>1.1.</b> 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><b>1.1.1.</b> Each Reliability Coordinator, Balancing Authority and Transmission Operator shall update its list of BES company-specific reliability-related tasks performed by its System</p>	<p>Requirement R1 parts 1.1.1., 1.1.</p>	<p><b>R1.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall review and update its list of tasks identified in part 1.1 each calendar year.</p> <p><b>1.1.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall review and update its list of tasks identified in part 1.1 each calendar year.</p> <p><b>1.1.1.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall design and develop training materials based on the task list created in part 1.1 and part 1.1.1</p> <p><b>1.2.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall deliver the training established in part 1.2 to System Personnel.</p> <p><b>1.3.</b> Each Reliability Coordinator, Balancing Authority,</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>Operators each calendar year to identify new or modified tasks for inclusion in training.</p> <p><b>1.2.</b> 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><b>1.3.</b> Each Reliability Coordinator, Balancing Authority and Transmission Operator shall deliver the training established in R1.2.</p> <p><b>1.4.</b> 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>Transmission Operator, and Transmission Owner 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><b>R2.</b> 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>Requirement R2</p>	<p><b>R2:</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall verify at least once, the capabilities of its System Personnel identified to perform each assigned task in Requirement R1</p>

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

<p><b>Standard PER-005-1 NERC Board Approved</b></p>	<p><b>Transitions to the below Requirement in New Standard or Other Action</b></p>	<p><b>Proposed Standard PER-005-2</b></p>
<p><b>2.1.</b> 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>parts 1.1 and 1.1.1.</p> <p><b>2.1.</b> Within six months of a modification or addition of Bulk Electric System company-specific Real-time reliability-related tasks, each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall verify the capabilities of each of its System Personnel to perform the new or modified tasks identified in Requirement R1 part 1.1.1.</p>
<p><b>R3.</b> 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 restoration using drills, exercises or other training required to maintain qualified personnel.</p>	<p>This Requirement has been updated with deleting R3 and moving 3.1 from the approved standard to be the new R3. Part 3.1 in the proposed standard it addresses the implementation of simulation technology.</p>	<p><b>R3.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner 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 its System Personnel with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the Bulk Electric System.</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><b>3.1.</b> 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><b>3.1.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner that gains operational authority or control over a Facility with an established IROL or establishes operating guides or protection systems to mitigate IROL violations shall comply with Requirement R3 within 6 months of gaining that authority, control or establishing such operating guides or protection systems.</p>
	<p>This requirement is new to PER-005-2.</p>	<p><b>R4.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall establish and implement training for Support Personnel specific to those Real-time reliability-related tasks identified by the entity pursuant to Requirement R1 part 1.1 and part 1.1.1 that relate to the Support Personnel’s job function.</p>
	<p>This requirement is new to PER-005-2.</p>	<p><b>R5.</b> Each Generator Operator shall use a systematic approach to training to establish and implement training for its personnel described in applicability section 4.1.5 as follows: <i>[Violation Risk Factor: Medium] [Time Horizon:</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><i>Long-term Planning ]</i></p> <p><b>5.1</b> Each Generator Operator shall coordinate with its Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner to identify training topics that address the impact of the decisions and actions of a Generator Operator’s personnel as it pertains to the reliability of the Bulk Electric System during normal and emergency operations.</p> <p><b>5.1.1.</b> Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner shall provide input as requested by the Generator Operator.</p>