NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments on 4th Draft of System Personnel Training Standard — Project 2006-01

The System Personnel Training Standard Drafting Team (SPT SDT) thanks all commenters who submitted comments on revisions for the 4th draft of the System Personnel Training standard. This standard was posted for a 30-day public comment period from June 18, 2008 through July 17, 2008. The stakeholders were asked to provide feedback on the standard through a special electronic Standard Comment Form. There were 41 sets of comments, including comments from more than 140 different people from approximately 70 companies representing 8 of the 10 Industry Segments as shown in the table on the following pages.

In this document, the SPT SDT's consideration of comments is provided in blue text immediately following each comment submitted for each question. A summary response to each question is highlighted following each question. The following conforming modifications were made to the standard:

- Modified the Effective Date for Requirement R3 to provide clarity in what Requirement is presently in effect.
- Modified Requirement R1.1.1 to "each calendar year" to provide clarity.
- Modified Measure M1.1 to provide for clarity in measurement of compliance for Requirements R1.1 and R1.1.1.

The drafting team was not able to resolve all suggestions for modifications to the standard. Because the standard will require some entities to change their existing practices with respect to system operator training, the drafting team does not expect that additional postings of the standard will result in significant improvements in stakeholder consensus. Some of the minority views that remain unresolved include:

- Several commenters requested modifications to the effective date to allow a longer time for compliance. The SDT explained that the need for improved system operator training was identified in the Blackout Report and in Order 693. Entities registered to perform the functions of the Reliability Coordinator, Transmission Operator and Balancing Authority should already have system operator training and programs or operator qualification programs in place to comply with PER-002-0 — Operating Personnel Training and PER-005-1 — Reliability Coordination Staffing.
- Several commenters requested that the SDT add more specificity to the standard regarding the term, "Systematic Approach to Training (SAT)." The SDT explained that there are several different terms used to describe this approach to developing training programs. The SDT felt that adding a definition would force some entities into modifying their existing practices, without any additional benefit to reliability. There are many variations to the SAT approach to training, but all include the steps identified in subrequirements R1.1 through R1.4.
- Several comments indicated that the standard should not specify the use of the SAT process. This is a training process that has been widely recognized in many different occupational fields as an effective and efficient method of linking training to specific performance on designated tasks. The SAR for this project specified that the requirements in the standard must mandate use of the SAT process – one of the directives in FERC Order 693 was to modify the existing training standard to require the use of the SAT methodology in the development of new training programs.

- Several commenters asked the drafting team to include a reference with a comprehensive reliability-related task list. The SDT did not include such a list as in previous postings, the SDT did propose a list and commenters indicated such a list was problematic as it was not written to be company-specific, and could have been interpreted as requiring training on all the tasks, whether applicable or not.

- Several commenters stated that the use of simulators should not be mandatory. Order 693 included a directive to modify the existing training standard to include the use of simulators by reliability coordinators, transmission operators, and balancing authorities that have operational control over a significant portion of load and generation. The language in the proposed standard does not require that any entity purchase a system-specific simulator. The use of simulators as effective training tools, particularly for learning how to react to events that occur infrequently, is widely accepted in other industries as an effective and efficient method of providing training and practice. Simulators are used in many industries where the ramifications of an error have far-reaching consequences to safety – including airline pilots, shipping pilots, and operators of control systems in chemical, oil and gas industries.

- Some commenters indicated that some VSLs do not provide as many options as possible for describing noncompliant performance.

In this "Consideration of Comments" document stakeholder comments have been arranged so that it is easier to see the responses associated with each question. All comments received on the standard can be viewed in their original format at:

http://www.nerc.com/~filez/standards/System-Personnel-Training.html

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Gerry Adamski, at 609-452-8060 or at gerry.adamski@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

[1] The appeals process is in the Reliability Standards Development Procedures: http://www.nerc.com/standards/newstandardsprocess.html.

Index to Questions, Comments, and Responses

The Industry Segments are:

1 — Transmission Owners
2 — RTOs, ISOs
3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities
10 – Regional Reliability Organizations, Regional Entities

<table>
<tr><th>Name</th><th>Organization</th><th>RBB Segment</th><th></th></tr>
<tr><td>Denise Koehn</td><td>Bonneville Power Administration</td><td>1 - Transmission Owners, 3 - Load-serving Entities, 5 - Electric Generators, 6 - Electicity Brokers, Aggregators</td><td>
<table>
<tr><th>Additional Member</th><th>Additional Organization</th><th>Region</th><th>Segment Selection</th></tr>
<tr><td>1.</td><td>Richard Ellison</td><td>Transmission Dispatch</td><td>WECC</td><td>1</td></tr>
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<tr><td>Bob Ritzman</td><td>NorthWestern Corporation</td><td>1 - Transmission Owners</td><td></td></tr>
<tr><td>Mike Clime</td><td>Ameren</td><td>1 - Transmission Owners, 3 - Load-serving Entities, 5 - Electric Generators</td><td></td></tr>
<tr><td>Guy Zito</td><td>NPCC</td><td>10 - Regional Reliability Organization/Regional Entity</td><td>
<table>
<tr><th></th><th>Additional Member</th><th>Additional Organization</th><th>Region</th><th>Segment Selection</th></tr>
<tr><td>1.</td><td>Ed Thompson</td><td>Consolidated Edison Co. of New York, Inc.</td><td>NPCC</td><td>1</td></tr>
<tr><td>2.</td><td>David Kiguel</td><td>Hydro One Networks Inc.</td><td>NPCC</td><td>1</td></tr>
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Name	Organization	RBB Segment						
				3.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1
				4.	Frederick White	Northeast Utilities	NPCC	1
				5.	Roger Champagne	Hydro-Quebec TransEnergie	NPCC	2
				6.	Ron Falsetti	Independent Electricity System Operator	NPCC	2
				7.	Kathleen Goodman	ISO - New England	NPCC	2
				8.	Randy MacDonald	New Brunswick System Operator	NPCC	2
				9.	Gregory Campoli	New York Independent System Operator	NPCC	2
				10.	Michael Ranalli	National Grid	NPCC	3
				11.	Ronald E. Hart	Dominion Resources, Inc.	NPCC	5
				12.	Ralph Rufrano	New York Power Authority	NPCC	5
				13.	Brian L. Gooder	Ontario Power Generation Incorporated	NPCC	5
				14.	Michael Gildea	Constellation Energy	NPCC	6
				15.	Brian D. Evans-Mongeon	Utility Services	NPCC	6
				16.	Donald E. Nelson	Massachusetts Dept. of Public Utilities	NPCC	9
				17.	Brian Hogue	NPCC	NPCC	10

Name	Organization	RBB Segment	
			18. Alan Adamson — New York State Reliability Council — NPCC — 10 19. Guy Zito — NPCC — NPCC — 10 20. Lee Pedowicz — NPCC — NPCC — 10 21. Gerry Dunbar — NPCC — NPCC — 10
Glen Boyle	PJM Interconnection	2 - RTOs and ISOs	Additional Member / Additional Organization / Region / Segment Selection 1. Mike Sitarchyk 2. Tom Moleski 3. Frank Koza 4. Al DiCaprio
Tim Loepker	Seattle City Light	Not Applicable	
Roman Carter	Southern Company Transmission	3 - Load-serving Entities, 1 - Transmission Owners	Additional Member / Additional Organization / Region / Segment Selection 1. Jim Busbin — Southern Transmission — SERC — 1 2. Fred Waites — Alabama Power — SERC — 3 3. Rocky Williamson — Georgia Power — SERC — 3 4. Marc Butts — Southern Transmission — SERC — 1 5. JT Wood — Southern Transmission — SERC — 1 6. James Ford — Southern Transmission — SERC — 1
Michael Scott	Arizona Public Service Company	1 - Transmission Owners	
Kris Manchur	Manitoba Hydro	1 - Transmission Owners, 3 - Load-serving Entities, 6 - Electicity Brokers, Aggregators , 5 - Electric Generators	

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<tr><th>Name</th><th>Organization</th><th>RBB Segment</th><th></th></tr>
<tr><td>Brian S. Dunsmore</td><td>Wapa (Loveland, Co)</td><td>5 - Electric Generators, 9 - Federal, State, Provincial Regulatory, or other Government Entities, 10 - Regional Reliability Organization/Regional Entity, 3 - Load-serving Entities, 1 - Transmission Owners</td><td></td></tr>
<tr><td>Richard Kafka</td><td>Pepco Holdings, Inc. - Affiliates</td><td>3 - Load-serving Entities, 1 - Transmission Owners</td><td>
<table>
<tr><th>Additional Member</th><th>Additional Organization</th><th>Region</th><th>Segment Selection</th></tr>
<tr><td>1.</td><td>Valerie Hildebrand</td><td>Potomac Electric Power Co</td><td>RFC 1</td></tr>
<tr><td>2.</td><td>Vic Davis</td><td>Delmarva Power & Light</td><td>RFC 1</td></tr>
<tr><td>3.</td><td>Brian Clark</td><td>Delmarva Power & Light</td><td>RFC 3</td></tr>
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<tr><td>Richard Kinas</td><td>Orlando Utilities Commission</td><td>1 - Transmission Owners, 6 - Electicity Brokers, Aggregators , 5 - Electric Generators, 3 - Load-serving Entities</td><td></td></tr>
<tr><td>Brent Ingebrigtson</td><td>E.ON U.S. LLC</td><td>6 - Electicity Brokers, Aggregators , 5 - Electric Generators, 3 - Load-serving Entities, 1 - Transmission Owners</td><td></td></tr>
<tr><td>Linda Perez</td><td>WECC Reliability Coordination</td><td>10 - Regional Reliability</td><td></td></tr>
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<tr><th>Name</th><th>Organization</th><th>RBB Segment</th><th></th></tr>
<tr><td></td><td>Comment Working Group</td><td>Organization/Regional Entity</td><td></td></tr>
<tr><td>Margaret Stambach</td><td>SERC Standards Review Group</td><td>10 - Regional Reliability Organization/Regional Entity</td><td>
<table>
<tr><th>Additional Member</th><th>Additional Organization</th><th>Region</th><th>Segment Selection</th><th></th></tr>
<tr><td>1.</td><td>John Neagle</td><td>AECI</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>2.</td><td>Alan Jones</td><td>Alcoa</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>3.</td><td>Charles Wear</td><td>Alcoa</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>4.</td><td>Mike Clime</td><td>Ameren</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>5.</td><td>Robert Thomasson</td><td>Big Rivers</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>6.</td><td>Mark D. Brown</td><td>Entergy Transmission</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>7.</td><td>Phillip Jarreau</td><td>Entergy Generation</td><td>SERC</td><td>5, 6</td></tr>
<tr><td>8.</td><td>Brian Haggard</td><td>GSOC</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>9.</td><td>Paul Turner</td><td>GSOC</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>10.</td><td>Charlie Deleon</td><td>NRG Energy</td><td>SERC</td><td>1, 3, 4</td></tr>
<tr><td>11.</td><td>Tim Hattaway</td><td>PowerSouth</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>12.</td><td>Bill Thigpen</td><td>PowerSouth</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>13.</td><td>Kristi Boland</td><td>Santee Cooper</td><td>SERC</td><td>1, 3, 9</td></tr>
<tr><td>14.</td><td>Rene Free</td><td>Santee Cooper</td><td>SERC</td><td>1, 3, 9</td></tr>
<tr><td>15.</td><td>Glenn Stephens</td><td>Santee Cooper</td><td>SERC</td><td>1, 3, 9</td></tr>
<tr><td>16.</td><td>Steve Hebert</td><td>SCE&G</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>17.</td><td>Steve Orr</td><td>SCE&G</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>18.</td><td>Charles Evans</td><td>SMEPA</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>19.</td><td>Dan Kay</td><td>SMEPA</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>20.</td><td>Steve McElhaney</td><td>SMEPA</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>21.</td><td>James Ford</td><td>Southern Company</td><td>SERC</td><td>1, 3</td></tr>
<tr><td>22.</td><td>Edd Forsythe</td><td>TVA</td><td>SERC</td><td>1, 3, 9</td></tr>
<tr><td>23.</td><td>Rocky Roberts</td><td>TVA</td><td>SERC</td><td>1, 3, 9</td></tr>
<tr><td>24.</td><td>John Troha</td><td>SERC Reliability Corp.</td><td>SERC</td><td>10</td></tr>
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<tr><td>Tim</td><td>PowerSouth</td><td>3 - Load-serving</td><td></td></tr>
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<tr><td>Hattaway</td><td>Energy Cooperative</td><td>Entities, 5 - Electric Generators, 4 - Transmission-dependent Utilities</td><td></td></tr>
<tr><td>Todd Lietz</td><td>PSEI</td><td>1 - Transmission Owners</td><td></td></tr>
<tr><td>Donna Howard</td><td>FRCC System Operator Subcommittee</td><td>10 - Regional Reliability Organization/Regional Entity, 5 - Electric Generators, 3 - Load-serving Entities, 4 - Transmission-dependent Utilities, 1 - Transmission Owners</td><td>
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<tr><th>Additional Member</th><th>Additional Organization</th><th>Region</th><th>Segment Selection</th></tr>
<tr><td>1.</td><td>Steve Joseph</td><td>Tampa Electric Company</td><td>FRCC</td><td>3</td></tr>
<tr><td>2.</td><td>Alan Gale</td><td>City of Tallahassee</td><td>FRCC</td><td>5</td></tr>
<tr><td>3.</td><td>Charles Wubbena</td><td>Seminole Electric Cooperative</td><td>FRCC</td><td>4</td></tr>
<tr><td>4.</td><td>Curtis Lloyd</td><td>Progress Energy Florida</td><td>FRCC</td><td>3</td></tr>
<tr><td>5.</td><td>Jeff Gooding</td><td>Florida Power & Light Company</td><td>FRCC</td><td>1</td></tr>
<tr><td>6.</td><td>Jimmy McDougald</td><td>Lee County Electric Cooperative</td><td>FRCC</td><td>NA</td></tr>
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<tr><td>Kristie Cocco</td><td>SRP</td><td>1 - Transmission Owners, 5 - Electric Generators, 6 - Electicity Brokers, Aggregators , 3 - Load-serving Entities</td><td></td></tr>
<tr><td>Alessia Dawes</td><td>Hydro One Networks</td><td>1 - Transmission Owners, 3 - Load-serving Entities</td><td></td></tr>
<tr><td>Will Franklin</td><td>Entergy - System Planning & Operation (Generation)</td><td>6 - Electicity Brokers, Aggregators</td><td>
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<tr><td>1.</td><td>Phillip Jarreau</td><td>Entergy SPO (Generatin)</td><td>SERC</td><td>NA</td></tr>
<tr><td>2.</td><td>Margaret Hebert</td><td>Entergy SPO (Generation)</td><td>SERC</td><td>NA</td></tr>
<tr><td>3.</td><td>David Plant</td><td>Entergy SPO (Generation)</td><td>SERC</td><td>NA</td></tr>
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<tr><td>4.</td><td>Joel Plessinger</td><td>Entergy SPO (Generation)</td><td>SERC</td><td>NA</td></tr>
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<tr><td>Brad Calhoun</td><td>CenterPoint Energy</td><td>1 - Transmission Owners</td><td></td></tr>
<tr><td>George Brady</td><td>Ohio Valley Electric Corporation</td><td>1 - Transmission Owners</td><td>
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<tr><td>1.</td><td>Scott Cunningham</td><td>Ohio Valley Electric Corporation</td><td>RFC</td><td>1</td></tr>
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<tr><td>Alan Gale</td><td>City Of Tallahassee (TAL)</td><td>3 - Load-serving Entities, 5 - Electric Generators, 1 - Transmission Owners</td><td></td></tr>
<tr><td>Thomas Fung</td><td>BCTC</td><td>2 - RTOs and ISOs</td><td></td></tr>
<tr><td>Albert DiCaprio</td><td>ISO/RTO Council - Standards Review Committee</td><td>2 - RTOs and ISOs</td><td></td></tr>
<tr><td>Lauri Jones</td><td>WECC Operations Training Subcommittee</td><td>1 - Transmission Owners, 3 - Load-serving Entities, 10 - Regional Reliability Organization/Regional Entity</td><td>
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<tr><td>1.</td><td>Rod Byrnell</td><td>BCTC</td><td>WECC</td><td>1</td></tr>
<tr><td>2.</td><td>Richard Krajewski</td><td>PNM</td><td>WECC</td><td>1, 3</td></tr>
<tr><td>3.</td><td>Brian Reich</td><td>IPCO</td><td>WECC</td><td>1, 3</td></tr>
<tr><td>4.</td><td>Dick Schwarz</td><td>PNSC</td><td>WECC</td><td>10</td></tr>
<tr><td>5.</td><td>Warren Maxvill</td><td>AVA</td><td>WECC</td><td>1, 3</td></tr>
<tr><td>6.</td><td>Hank LuBean</td><td>DOPD</td><td>WECC</td><td>1, 3</td></tr>
<tr><td>7.</td><td>Robert Eubank</td><td>WECC</td><td>WECC</td><td>10</td></tr>
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<tr><td>Joe DePoorter</td><td>MRO NSRS</td><td>6 - Electicity Brokers, Aggregators , 3 -</td><td>
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Name	Organization	RBB Segment	
		Load-serving Entities, 4 - Transmission-dependent Utilities, 5 - Electric Generators	1. Carol Gerou — Minnesota Power — MRO — 1, 3, 5, 6 2. Ken Goldsmith — Alliant Energy — MRO — 4 3. Pam Sordet — Xcel Energy — MRO — 1, 3, 5, 6 4. Tom Mielnik — MidAmerican — MRO — 1, 3, 5, 6 5. Dave Rudolph — BEPC — MRO — 1, 3, 5, 6 6. Marie Knox — MISO — MRO 7. Chuck Lawrence — ATC — MRO 8. Laura Elsenpeter — MRO — MRO — 10 9. Larry Brusseau — MRO — MRO — 10
Ron Falsetti	Ontario IESO	2 - RTOs and ISOs	
Thad Ness	AEP	3 - Load-serving Entities, 5 - Electric Generators, 6 - Electicity Brokers, Aggregators , 1 - Transmission Owners	
Joe Knight	Great River Energy	1 - Transmission Owners, 6 - Electicity Brokers, Aggregators , 5 - Electric Generators, 3 - Load-serving Entities	
Edward Carmen	Transmission System Operations - Baltimore Gas & Electric		
Russell Fernsler	PPL Electric Utilities	1 - Transmission Owners	
Lauri Jones	Pacific Gas and Electric Company	1 - Transmission Owners, 3 - Load-	

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<tr><td></td><td></td><td>serving Entities, 5 - Electric Generators</td><td></td></tr>
<tr><td>Terry L. Blackwell</td><td>Santee Cooper</td><td>1 - Transmission Owners</td><td>
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<tr><td>1.</td><td>S. T. Abrams</td><td>Santee Cooper</td><td>SERC</td><td>1</td></tr>
<tr><td>2.</td><td>Glenn Stephens</td><td>Santee Cooper</td><td>SERC</td><td>1</td></tr>
<tr><td>3.</td><td>Rene' Free</td><td>Santee Cooper</td><td>SERC</td><td>1</td></tr>
<tr><td>4.</td><td>Kristi Boland</td><td>Santee Cooper</td><td>SERC</td><td>1</td></tr>
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<tr><td>Jason Shaver</td><td>American Transmission Company</td><td>1 - Transmission Owners</td><td></td></tr>
<tr><td>John Blazekovich</td><td>Standards Interface Subcommittee/Compliance Elements Drafting Resource Pool</td><td>N/A</td><td></td></tr>
<tr><td>Phil Riley</td><td>Public Service Commission of South Carolina</td><td>9 - Federal, State, Provincial Regulatory, or other Government Entities</td><td>
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<tr><th>Additional Member</th><th>Additional Organization</th><th>Region</th><th>Segment Selection</th></tr>
<tr><td>1.</td><td>Mignon L. Clyburn</td><td></td><td>SERC</td><td>9</td></tr>
<tr><td>2.</td><td>Elizabeth B. Fleming</td><td></td><td>SERC</td><td>9</td></tr>
<tr><td>3.</td><td>G. O'Neal Hamilton</td><td></td><td>SERC</td><td>9</td></tr>
<tr><td>4.</td><td>John E. Howard</td><td></td><td>SERC</td><td>9</td></tr>
<tr><td>5.</td><td>Randy Mitchell</td><td></td><td>SERC</td><td>9</td></tr>
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<tr><td>6.</td><td>Swain E. Whitfield</td><td></td><td>SERC</td><td>9</td></tr>
<tr><td>7.</td><td>David A. Wright</td><td></td><td>SERC</td><td>9</td></tr>
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<tr><td>Greg Rowland</td><td>Duke Energy</td><td>5 - Electric Generators, 3 - Load-serving Entities, 6 - Electicity Brokers, Aggregators , 1 - Transmission Owners</td><td></td></tr>
<tr><td>Sam Ciccone</td><td>FirstEnergy</td><td>1 - Transmission Owners, 6 - Electicity Brokers, Aggregators , 5 - Electric Generators, 3 - Load-serving Entities</td><td>
<table>
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<tr><td>1.</td><td>John Reed</td><td>FE</td><td>RFC</td></tr>
<tr><td>2.</td><td>Jim Eckels</td><td>FE</td><td>RFC</td></tr>
<tr><td>3.</td><td>John Wilson</td><td>FE</td><td>RFC</td></tr>
<tr><td>4.</td><td>Dave Folk</td><td>FE</td><td>RFC</td></tr>
<tr><td>5.</td><td>Doug Hohlbough</td><td>FE</td><td>RFC</td></tr>
<tr><td>6.</td><td>Hugh Bullock</td><td>FE</td><td>RFC</td></tr>
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<tr><td>Kathleen Goodman</td><td>ISO New England Inc.</td><td>2 - RTOs and ISOs</td><td></td></tr>
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1. The System Personnel Training standard drafting team (SPT SDT) revised the effective dates for this Standard to provide for a shorter period for implementation of the training program while allowing for a longer implementation period for implementing the use of training simulation/simulators. Do you agree that the revised effective dates provide for sufficient time to establish a training program, as specified in R1? If not, please explain in the comment area.

Summary Consideration:

With almost an even distribution of "yes" and "no" votes of those industry participants responding, there was no clear industry consensus on this issue. Of those responding no, the majority disagreed with the shorter implementation period for implementing the training program. In the responses to comments, the SPT SDT explained that there was actually a longer period of time available to them if they utilized the period between NERC BOT approval and the requirement implementation date. The SPT SDT also explained FERC's concern that the need for the standard was initially identified in the 2003 Black-out Report and again in Order 693.

Organization	Question 1:	Question 1 Comments:
Ameren	No	Everyone who does training now is not necessarily familiar with developing training using the systematic approach. So some trainers will have to acquire these skills. Also some companies will have to hire another person to develop and write the training lessons using the systematic approach. It might take that person more than 6 months just to become familiar with the jobs and the tasks being performed before that person could even begin to do any task listing and developing of any training. So essentially you would have less than 2 years to develop and deliver the training. Three years was a short period of time after implementation of the Standard to have all of the requirements done. Two years is un-realistic.

Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada):

- **NERC filing of BOT approved standard with FERC**
- **FERC staff review for development of NOPR**
- **NOPR comment period**
- **FERC staff review of NOPR comments**

Organization	Question 1:	Question 1 Comments:
• **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
PJM Interconnection	No	This change was surprising, as the only comment made on the previous draft was to increase the implementation time. The SDT has shortened the implementation time, without providing justification for the change.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
Southern Company	No	We suggest the effective date be 36 months for both not 24 and 36. The 36 months will allow the

Organization	Question 1:	Question 1 Comments:
Transmission		industry the time required to develop quality training programs
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
SERC Standards Review Group	No	Our group supports the return of the training program effective date to 36 months after the first day of the first calendar quarter following regulatory approval. We feel that a 36-month implementation period is needed to allow responsible entities to develop quality training programs under the systematic approach required by the standard.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR**		

Organization	Question 1:	Question 1 Comments:
• **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
PowerSouth Energy Cooperative	No	Reducing the time frame from 36 to 24 months is not appropriate for the implementation of quality training. The evaluation and purchase process, lead time and cost to implement simulators as stated in R3.1 is unreasonable and does not necessarily improve reliability.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval**		

Organization	Question 1:	Question 1 Comments:
In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.		
Ohio Valley Electric Corporation	No	A longer time period of 36 months better represents the industry project process of planning, budgeting, and construction. The scope of training as outlined in this standard would certainly be considered a project. Year 1 (months 1-12) is the planning year. Year 2 (months 13-24) is the budgeting year. Year 3 (months 25-36) is the purchase and construction year. Having a shorter implementation period would not give utilities an opportunity to appropriately address and consider each stage of the project process which could lead to significant errors in either the planning, budgeting, or construction (implementation) stage.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
BCTC	No	The previous version of the standard included 36 months for implementing the re-defined training program and all the new requirements for a training program. The reduction in time from 36 months to 24 months is not acceptable. The 36 months implementation period, based on the amount of time needed to create the task lists of company-specific reliability related tasks performed by its System Operators, to

Organization	Question 1:	Question 1 Comments:
		conform with a systematic approach to training and the RRO's definition of the Bulk Electric System, and to provide the one time training to all system operators should be retained.

Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada):

- **NERC filing of BOT approved standard with FERC**
- **FERC staff review for development of NOPR**
- **NOPR comment period**
- **FERC staff review of NOPR comments**
- **FERC issuing of final rule**
- **Publish in Federal Register**
- **24 months after the first day of the first calendar quarter following regulatory approval**

In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.

WECC Operations Training Subcommittee	No	The previous version of the standard included 36 months for implementing the training program. The WECC OTS would like to see this time frame returned, based on the amount of time needed to create the task lists of company-specific reliability related tasks performed by its System Operators, utilizing a systematic approach to training, the regions definition of the Bulk Electric System and the time to provide the one time training to all system operators.

Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada):

- **NERC filing of BOT approved standard with FERC**

Organization	Question 1:	Question 1 Comments:
• **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
MRO NSRS	No	The original time frame of 36 months allowed entities to formulate an effective plan, ensuring compliance to the new Standard and requirements, as well as providing the training that will be needed when the MISO ancillary service market implementation scheduled for September 9, 2008. The systematic approach to training (SAT) process is a detailed process where entities are going to need to be trained in order to fulfill the requirements. There will need to be a substantial capital investment by entities who must comply with this updated Standard. By reducing the time frame to 24 months the Standard will not be as effective and may lead to possible shortcomings in the detailed training that is required for System Operators.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments**		

Organization	Question 1:	Question 1 Comments:
• **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
AEP	No	The Requirements R1 and R2 implementation period should not be shortened but rather remain at the 3 year implementation requirement previously specified in Draft 3 of the standard. We believe it will take the 3 years to assure proper development of the training and objectives required to support all reliability tasks, and to verify every existing operator's capability to perform every identified reliability task as specified in R2. For some operators, the majority of their tasks may be reliability tasks.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		

Organization	Question 1:	Question 1 Comments:
Great River Energy	No	The original time frame of 36 months allowed entities to formulate an effective plan, ensuring compliance to the new Standard and Requirements, as well as providing the training that will be needed when the MISO ancillary service market is implemented which is scheduled for September 9, 2008. The systematic approach to training (SAT) process is a detailed process where entities are going to need to be trained in order to fulfill the requirements. There will need to be a substantial capital investment by entities that must comply with this updated Standard. By reducing the time frame to 24 months the Standard will not be as effective and may lead to possible shortcomings in the detailed training that is required for System Operators.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
Pacific Gas and Electric Company	No	There is an assumption that all entities utilize a systematic approach to their current training program. We would guess that is not the case, since utilizing this methodology may generate a lot of paper work and is administered by those with a background in implementing a systematic approach to training. With the passage of this new standard, reducing the implementation time frame from 36 to 24 months will in many cases create additional burdens to some entities and others will need to make improvements to their programs to meet the new standard and measures. In either case, entities will have to either rely

Organization	Question 1:	Question 1 Comments:
		on in house development or vendors to meet the criteria. This may be a substantial change and may require project funding, which in of itself creates a timeline of anywhere between 1-3 years and a process of planning, budgeting, and implementation. Therefore, within the first two years planning (analyzing and designing) and budgeting would have to be completed, followed by development and implementation. We feel returning the training program effective date to 36 months after the first day of the first calendar quarter following regulatory approval allows responsible entities to develop quality training programs under the systematic approach required by the standard.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
Santee Cooper	No	Santee Cooper believes that 36 months is needed to implement a quality training program utilizing the systematic approach to training. Requirement 1 and Requirement 2 should both become effective 36 months after appropriate approvals.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada):		

Organization	Question 1:	Question 1 Comments:
• **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
Duke Energy	No	While 24 months is sufficient time to implement R1, implementing R2 will take longer because verifying System Operators' capabilities is dependent upon development of the task list and training program. 36 months should be allowed for implementation of R2.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule**		

Organization	Question 1:	Question 1 Comments:
• **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
E.ON U.S. LLC	No	E.ON U.S. believes that its training programs are sufficient to meet the requirements of the standard but is concerned that if NERC requires that parties undergo a formal systematic approach to training process that adequate time may not be available to complete the development, testing and administration of a training program. E.ON U.S. requests that NERC provide greater clarity as to whether a systematic approach to training process will be required in all instances and if so, better define what steps are required to implement this process. Without this guidance E.ON U.S. suggests that shortening the training period is not appropriate at this time.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		

Organization	Question 1:	Question 1 Comments:
With regards to your comment concerning clarity as to whether a systematic approach to training being required in all instances the answer is yes, the systematic approach to training process must be used for all training associated with this standard. In addition, the Reference Document attached to this standard provides information on the use and implementation of a systematic approach to training.		
PSEI	No	The plan should go back to 3 years. There are many entities that will essentially have to re-build there programs to meet the administrative burden of an auditable SAT. I also disagree with the statement in the standard that R3 is presently in effect. The language, and therefore interpretation, of R3 differs from what is in the current approved standard. The new R3 in this standard should not go into effect until the first calendar quarter following regulatory approval of the standard.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.** **The SPT SDT thanks you for your comment concerning the effective date for Requirement R3 and has modified the date. The effective date now reads "PER-002-1 Requirement R4 and PER-004-1 Requirement R2 are presently in effect and will be superseded by PER-005-1 Requirement R3 upon approval of this Standard".**		

Organization	Question 1:	Question 1 Comments:
ISO/RTO Council - Standards Review Committee	No	The IRC does not agree with the SDT's proposal, particularly as it relates to training simulation/simulators (for details see comments under Q3).
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. **Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. The requirement specifies the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that have operational authority or control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations. If an entity does not have authority or control over facilities with established IROLs or has not established operating guides or protection systems to mitigate IROL violations, then this requirement does not apply to the entity.**		
Ontario IESO	No	We have a comment on the use of training simulation/simulators (see comments under Q3) and are therefore not agreeing with that part of the implementation date.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. **Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. The requirement specifies the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that have operational authority or control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations. If an entity does not have authority or control over facilities with established IROLs or has not established operating guides or protection systems to mitigate IROL violations, then this requirement does not apply to the entity.**		
Arizona Public Service Company	Yes and No	I can live with it, but I'm not sure if some smaller entities with training responsibilities being conducted by part time operators can. Three years would be better.
Response: Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical		

Organization	Question 1:	Question 1 Comments:
process (with the exception of Canada): • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
Hydro One Networks	Yes and No	The timelines of 2 months and 36 months are appropriate however the general wording of the Effective Date section of the Standard and the Implementation Plan should be modified. In principle, the effective date of standards must be the same for all jurisdictions in North America. It does not make sense that there is a period of time when a standard is effective only in some jurisdictions while not in others. This is particularly important in standards that have a clear reliability impact. In addition, it does not seem appropriate to have entities exposed to sanctions for non-compliance in some jurisdictions while not in others. We suggest: - Requirement 1 and Requirement 2 becomes effective 2 months after the first day of the first calendar quarter following the date the standard is approved by all applicable regulatory authorities. - "Requirement R3.1 becomes effective 36 months after the first day of the first calendar quarter following applicable the date the standard is approved by all applicable regulatory authorities."
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. **While some standards do need to be implemented at the same time throughout an Interconnection such as standards that have requirements associated with frequency control, there is nothing in this standard that will impact real-time operations, and thus no**		

Organization	Question 1:	Question 1 Comments:
reliability-related reason to implement the standard at the same time in all jurisdictions.		
American Transmission Company	Yes	As the JTA is new; but the requirement to have a training program is not, it is reasonable to conduct and implement a JTA within a two year timeframe.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
FirstEnergy	Yes	The 24-month implementation allows for sufficient time for industry to properly develop their training programs and to formulate the required evidence for compliance.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
Manitoba Hydro	Yes	MHEB agrees with the revised dates.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
Bonneville Power Administration	Yes	
NorthWestern Corporation	Yes	
Public Service Commission of South Carolina	Yes	
PPL Electric Utilities	Yes	
City Of Tallahassee (TAL)	Yes	
Entergy - System Planning & Operation (Generation)	Yes	
WECC Reliability Coordination Comment Working Group	Yes	
FRCC System Operator Subcommittee	Yes	
Wapa (Loveland, Co)	Yes	
Pepco Holdings, Inc. - Affiliates	Yes	
Orlando Utilities Commission	Yes	
Seattle City Light	Yes	
NPCC	Yes	
ISO New England Inc.	Yes	
CenterPoint Energy		
Transmission System		

Organization	Question 1:	Question 1 Comments:
Operations - Baltimore Gas & Electric		
Standards Interface Subcommittee/Compliance Elements Drafting Resource Pool		
SRP		

2. The SPT SDT revised R1 to provide clarity and eliminate the ambiguity concerning the training program to be established. R1 now reads: "Each 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." Do you agree that the revised language now clearly defines the training program to be developed? If not, please explain in the comment area.?

Summary Consideration:

Approximately 2/3 of the industry participants responding agreed the revised Requirement R1 provided greater and sufficient clarity. A few of those industry participants responding with a "no" vote either opposed using a systematic approach to training or felt the SPT SDT was trying to dictate a specific process. The SPT SDT explained that it was responding to FERC directives and that it was not trying to prescribe a certain methodology. The SPT SDT further explained that there were multiple variations of a systematic approach to training and that there were examples listed in the Reference Document associated with the Standard.

Some of the responders also cited concerns with developing a task list or that a task list would be different, some possibly small and some larger. The SPT SDT explained that task lists would vary from entity to entity and therefore would be impossible for a standard to define the tasks for every entity. The SPT SDT further explained that there were topics located within the Reference Document associated with this Standard that could serve as a guide for the development of an entities task list.

Organization	Question 2:	Question 2 Comments:
Entergy - System Planning & Operation (Generation)	No	The two sentences that make up R1 seem to convey a purpose/intent rather than an actual requirement. R1 adds nothing that is not already covered in the "sub-requirements" that are listed. There is no reason to state that a 'systematic approach to training' is required and then go on to state the specific requirements of that concept. Only the requirements are needed. It is suggested that R1 be integrated into the PURPOSE section of PER-005 as such: To ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are competent to perform those tasks through a systematic approach to training. The Sub-requirements should be made as stand alone requirements in the standard.R1.1 - a reference document containing a possible list of reliability tasks may be useful for some entities, as long as it is not interpreted to be all encompassing or required to be required tasks.R1.1.1 - "annually" needs better definition. Is it January through December? Or is it within 12 months of the last performance?
Response: The SPT SDT feels that, based on prior industry comments received during earlier postings, there is a need to require the use of a systematic approach to training within the Standard. Also, there are multiple variations of a systematic approach to training. The sub-requirements simply list common elements that are in every systematic approach to training process. While the SAT process may be familiar to many entities, the comments received during the development of this standard indicate that many entities have little		

Organization	Question 2:	Question 2 Comments:
or no familiarity with the SAT process. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard. **(1) DOE-HDBK-1078-94, A Systematic Approach to Training** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf** **(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html** **(3) ADDIE – 1975, Florida State University** **http://www.nwlink.com/~donclark/history_isd/addie.html** **(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96** **http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf** **The Appendix A: Generic System Operator Task List was removed based on industry comments received from previous postings, therefore only BES company-specific reliability-related tasks are required to be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list.** **The SPT SDT is specifying the term "annual" to mean a calendar year from January to December. The SPT SDT modified the Requirement to say "calendar year".**		
Ohio Valley Electric Corporation	No	The wording "systematic approach" may be clearly stated, but the words will not be uniformly understood or applied in the development of a training program. Similarly, the individual company interpretations of "reliability-related tasks" will not be uniformly understood or applied. The R1 wording should be, "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall establish a training program for its System Operators and shall implement the program."
Response: This standard was developed based on the Industry approved SAR and requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. The requirement to use a systematic approach to training is a directive from FERC Order 693. In addition, there are multiple variations of a systematic approach to training and this standard is not prescribing the use of any specific SAT methodology. Each entity may select its own SAT methodology as long as it includes the elements identified in sub-requirements R1.1 to R1.4. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard.		

Organization	Question 2:	Question 2 Comments:
(1) DOE-HDBK-1078-94, A Systematic Approach to Training http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf **(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910 http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html** **(3) ADDIE – 1975, Florida State University http://www.nwlink.com/~donclark/history_isd/addie.html** **(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96 http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf** **Only BES company-specific reliability-related tasks should be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list.**		
E.ON U.S. LLC	No	As outlined above, E.ON U.S. requests that NERC fully identify what steps are required to use a "systematic approach to training". As previously discussed, the use of the DOE process if required will require a substantial resource and time commitment but will not guarantee that the resulting training program is any better than the programs currently in place for training system operators. E.ON U.S. recommends that the standard be altered to allow entities to demonstrate that their current training programs and policies, while not necessarily developed through a defined systematic approach do meet the requirements of the standard.
Response: This standard requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. The requirement to use a systematic approach to training is a directive from FERC Order 693. In addition, there are multiple variations of a systematic approach to training and this standard is not prescribing the use of any specific SAT methodology. Each entity may select its own SAT methodology as long as it includes the elements identified in sub-requirements R1.1 to R1.4. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard. **(1) DOE-HDBK-1078-94, A Systematic Approach to Training http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf** **(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C.**		

Organization	Question 2:	Question 2 Comments:
20585 FSC 6910 **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html** **(3) ADDIE – 1975, Florida State University** **http://www.nwlink.com/~donclark/history_isd/addie.html** **(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96** **http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf**		
ONtario IESO	No	The term "systematic approaching to training" needs to be defined. Interpretations currently vary widely across the industry.
Response: There are multiple variations of a systematic approach to training and this standard is not prescribing the use of any specific SAT methodology. Each entity may select its own SAT methodology as long as it includes the elements identified in sub-requirements R1.1 to R1.4. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard. **(1) DOE-HDBK-1078-94, A Systematic Approach to Training** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf** **(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html** **(3) ADDIE – 1975, Florida State University** **http://www.nwlink.com/~donclark/history_isd/addie.html** **(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96** **http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf**		
Duke Energy	No	R1 should state that each RC, BA and TO shall define and use a systematic approach to training. Since the systematic approach to training is not a NERC-defined term, an auditor may not agree with an entity's selected approach. Similarly, R1.1 should state that each RC, BA and TO shall define its list of BES company-specific reliability-related tasks performed by its System Operators. Also, the R1 High and Severe VSLs need to have the word "list" added back in.
Response: There are multiple variations of a systematic approach to training and this standard is not prescribing the use of any specific SAT methodology. Each entity may select its own SAT methodology as long as it includes the elements identified in sub-requirements R1.1 to R1.4. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard.		

Organization	Question 2:	Question 2 Comments:
(1) DOE-HDBK-1078-94, A Systematic Approach to Training http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf (2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910 http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html (3) ADDIE – 1975, Florida State University http://www.nwlink.com/~donclark/history_isd/addie.html (4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96 http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program. The SPT SDT thanks you for your comment concerning the wording of Sub-requirement R1.1 but feels that thee term "create" is more appropriate and provides for sufficient clarity. With regards to your comment concerning the VSL for R1, the SPT SDT agrees and has modified the VSL to include the word "list".		
Southern Company Transmission	No	What about the training programs that are in place now? Are they grand fathered? The industry needs clear direction on existing training programs. We support the use of the Systematic Approach-To-training (SAT). However the proposed standard seems to infer that to be consistent with SAT an entity need only develop a "company-specific reliability-related task". The SAT process is more than merely developing a list of Tasks. (Analysis, Design, Develop, Implement, and Evaluate.) Additionally as written the proposed standard provides no industry guidance in determining what constitutes "…a company-specific reliability-related task". It is purely subjective. Further, developing this subjective list does nothing to enhance reliability. An entity can make this list as long or short as they see fit. This task list should, at minimum, fully support the function type definition contained in the NERC Statement of Compliance Registry Criteria (Revision 4.0) for the Company's Compliance Registry Certification.
Response: This standard requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. In addition, the SPT SDT is not inferring that "to be consistent with SAT an entity need only to develop a company-specific reliability-related task list". The SPT is only identifying some of the common elements that are in every systematic approach to training. Also, as		

Organization	Question 2:	Question 2 Comments:
stated previously in our response to comments dated August 15, 2007 only specific tasks that are considered critical to reliability should be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list. **The NERC Functional Model and the Statement of Compliance Registry Criteria provide the current functional type definitions needed by NERC to fulfill its obligation as the Electric Reliability Organization to identify and register all entities that meet the criteria for inclusion in the compliance registry. An entity can utilize the NERC Functional Model and the Statement of Compliance Registry Criteria functional definitions to develop its list of BES company-specific reliability-related tasks. In addition, the NERC Rules of Procedure Section 500 specifies that Reliability Coordinators, Balancing Authorities and Transmission Operators included in the Compliance Registry must be certified to operate in those functional areas.**		
SERC Standards Review Group	No	This group feels that the requirement to "establish a training program" using the systematic approach to training (SAT) is still ambiguous with respect to existing training materials. Can these resources be retrofit into the SAT-developed program? Are existing materials grandfathered and therefore exempt from meeting requirement R1? The industry needs clear direction on how responsible entities can incorporate their existing materials into the established "training program" and still be compliant with requirement R1. Furthermore, the development of reliability-related system operator tasks is a crucial first step for the SAT process. It would be helpful to have a suggested (not prescriptive) list of generic tasks that training personnel could use as a starting point to create the list of BES company-specific reliability-related tasks required by R1.1. This group suggests that the PER-005 System Personnel Training Reference Document be augmented to include such a generic task list. We further suggest that Appendix A: Generic Task List of Draft 2 of PER-005 be used as the suggested list of operator tasks. By moving the task list out of the Standard and into the Reference Document, training personnel will have the flexibility to modify the tasks, or add/remove tasks to suit their specific system.
Response: This standard has been developed based on the Industry approved SAR and requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. **The Appendix A: Generic System Operator Task List was removed based on industry comments received from previous postings, therefore only BES company-specific reliability-related tasks should be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list.**		
PowerSouth Energy Cooperative	No	Some direction on existing training programs and how they will fit into the requirement should be included in the standard. Also, the current wording leaves a lot of interpretation to an auditor in deciding what tasks are be appropriate to included in the task list.
Response: This standard requires that a systematic approach to training process be applied to all system operator training for		

Organization	Question 2:	Question 2 Comments:
reliability-related tasks, either new or existing. **The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list. In addition, the SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.**		
BCTC	No	"Company-specific reliability-related tasks" are not defined. These tasks may vary with different RROs and as related to the RRO's definition of the BES. Therefore, it is up to each RRO to provide clear guidance to its entities to establish these tasks and that will require additional time to develop. If the BES is not properly defined by the RRO, then it will be extremely difficult for an entity to determine if the BES company-specific reliability-related tasks in its training program meet this requirement. We are also concerned that unless there is a clear definition or examples of what "Company-specific reliability-related tasks" are then an audit team will define them as they see fit and this does not meet the spirit of removing ambiguity from the Standards.
Response: Only BES company-specific reliability-related tasks should be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list. **The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.**		
Pacific Gas and Electric Company	No	This statement; "shall use a systematic approach to training to establish a training program" based on "for the BES company-specific reliability-related tasks performed by its System Operators" will be the challenge! This leaves open for interpretation by the auditors what that means for each entity and will therefore, create inconsistency throughout the industry. The compliance audits are already creating inconsistency within the industry and this standard will further add to that inconsistency. NERC Standards should clearly state the requirement(s) and measure(s), and not create more uncertainty.
Response: Only BES company-specific reliability-related tasks should be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list. **The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.**		
PJM Interconnection	No	It is still unclear if this addresses only new programs. R1 ignores the fact that many RCs, BAs & TOs

Organization	Question 2:	Question 2 Comments:
		already have excellent training programs in place. Is R1 intended to cover existing work as well? These programs are effective, however, they may not have been built "using a systematic Approach to Training" (SAT). Even if they were built with a SAT, the documentation for this would need to be created. The timely completion of this is unlikely, given the new, abbreviated, implementation time (see 1 above).
Response: This standard requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. **The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada):** • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training were identified in the 2003 Black-out Report and FERC Order 693 to establish the criteria for system operator training.** **Also, this standard has been developed based on the Industry approved SAR.**		
WECC Operations Training Subcommittee	No	"Company-specific reliability-related tasks" are not defined and therefore it will be up to each region to provide this assistance. The WECC OTS believes the additional time needed for this definition from the regions needs to be provided for in the implementation phase. However, this definition will vary within the regions and some may have a broader definition, which will make it extremely difficult for an entity to

Organization	Question 2:	Question 2 Comments:
		determine if its training program meets this requirement.
Response: Only BES company-specific reliability-related tasks should be considered when developing a task list. The number of tasks identified by each entity will vary dependent upon the operating position, responsibility of the position and the specific system for which the list is being developed. The Reference Document associated with the Standard details some topics that could be considered and included in a task list. **Due to the lack of clear industry consensus, the SPT SDT supports a 24 month implementation period. The industry should have adequate time to begin preparation to implement Requirement 1 and Requirement 2 of this standard based on the following typical process (with the exception of Canada):** • **NERC filing of BOT approved standard with FERC** • **FERC staff review for development of NOPR** • **NOPR comment period** • **FERC staff review of NOPR comments** • **FERC issuing of final rule** • **Publish in Federal Register** • **24 months after the first day of the first calendar quarter following regulatory approval** **In addition, FERC has expressed concerns regarding the implementation time frame of this standard since the need for improvements to system operator training was identified in the 2003 Black-out Report and FERC Order 693 directives to establish the criteria for system operator training.**		
PSEI	No	BES company-specific, reliability-related tasks is open to interpretation by auditors. What if an auditor thinks some task should be on my task list, but my evaluation based on difficulty, frequency, and importance concludes it does not? Am I automatically in violation? The current wording is so broad that essentially all tasks could be linked to it. Perhaps re-phrasing to "critical BES company-specific reliability-related tasks ..." or "BES company-specific reliability-related tasks determined to be critical ..." would help trainers with refining their task list to a more manageable level.
Response: The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.		

Organization	Question 2:	Question 2 Comments:
The term "critical" was in earlier versions of this Standard but was removed based on industry comments received from previous postings.		
Ameren	Yes and No	I don't think the addition of "and shall implement the program" is necessary as R.1.3 already does this.
Response: The SPT SDT acknowledges your comment but added the phrase "and shall implement the program" to provide clarity in support of comments received during previous postings.		
ISO/RTO Council - Standards Review Committee	Yes	The IRC agrees that any new training program should be created using a systematic approach to training. However, the SDT should make clear that this requirement is related only to new programs and will not be imposed retroactively on training modules created prior to this standard.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. **This standard was developed based on the Industry approved SAR and requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. The requirement to use a systematic approach to training is a directive from FERC Order 693.**		
Santee Cooper	Yes	We recommend the Standard include as a reference document a suggested (not prescriptive) list of generic tasks that training personnel could use as a starting point to create the list of BES company-specific reliability-related tasks required by R1.1. It should be clear that the list is only SUGGESTED generic tasks so that if a company determines one of the tasks is not a reliability-related task performed by its System Operators that an audit team could not deem the company non-compliant if all tasks are not included.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. **The Reference Document associated with the Standard details some topics that could be considered and included in a task list.** **The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.**		
Manitoba Hydro	Yes	MHEB agrees that the revised language makes it clear.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
Bonneville Power Administration	Yes	
NorthWestern Corporation	Yes	
NPCC	Yes	
Seattle City Light	Yes	
Arizona Public Service Company	Yes	

Organization	Question 2:	Question 2 Comments:
Wapa (Loveland, Co)	Yes	
Pepco Holdings, Inc. - Affiliates	Yes	
Orlando Utilities Commission	Yes	
WECC Reliability Coordination Comment Working Group	Yes	
FRCC System Operator Subcommittee	Yes	
Hydro One Networks	Yes	
City Of Tallahassee (TAL)	Yes	
MRO NSRS	Yes	
AEP	Yes	
Great River Energy	Yes	
PPL Electric Utilities	Yes	
American Transmission Company	Yes	
Public Service Commission of South Carolina	Yes	
FirstEnergy	Yes	
ISO New England Inc.	Yes	
CenterPoint Energy		
Standards Interface Subcommittee/Compliance Elements Drafting Resource Pool		
Transmission System Operations - Baltimore Gas & Electric		
SRP		

3. The SPT SDT revised R3 and added R3.1 to provide clarity in the types of training that can be utilized and the entities that must use simulation/simulator training in their emergency operations training. Do you agree that this requirement now clearly describes the types of training that can be utilized as well as the entities that must provide simulation/simulator training in its emergency operations training? If not, please explain in the comment area.

Summary Consideration:

The majority of the industry participants responding disagreed with Requirement R3.1. Some of those in disagreement misunderstood the use of IROLs as defining the use of simulators while others still disagreed with mandating the use of simulators. The SPT SDT explained the standard utilizes IROLs as a way to define those entities that needed to use a simulator/simulation technology in their training methodology. The SPT SDT further explained that it was responding to a FERC directive to utilize simulator/simulation training for system operator training.

In addition, a few of the responders wanted the SPT SDT to define the minimum number of hours that an entity needed to train a system operator on simulators/simulation. The SPT SDT explained that the SPT SDT was trying to allow each responsible entity to have the flexibility to determine the amount of hours of each type of training needed for their individual system conditions.

Organization	Question 3:	Question 3 Comments:
NorthWestern Corporation	No	R3.1 specifies that the simulator training is required only for IROL situations. However, the corresponding measure (M3.1) does not stipulate the same. It is unclear if this requirement/measure applies only to IROLs or both IROLs and SOLs. Is this requirement not applicable in the Western Interconnection since there is an absence of IROLs in the West?
Response: Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. **The requirement specifies that the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that have operational authority or control over Facilities with established IROLs or has *established operating guides or protection systems to mitigate IROL violations*. If an entity does not have authority or control over facilities with established IROLs or has not established operating guides or protection systems to mitigate IROL violations, then this requirement does not apply to the entity.**		
City Of Tallahassee (TAL)	No	I disagree with tying the requirement to SOL/IROL remediation. I also disagree with having to have a simulator. While they are good tools, a generic simulator (that replicates the response of the BES) is not the cure-all for a training in system response (including restoration). A good table-top on an entities own

Organization	Question 3:	Question 3 Comments:
		system will provide better understanding of the operators own system and how to restore it. The cost-benefit analysis may not justify the expense of producing and maintaining a simulator for many small entities that are quite capable of producing quality training with a table-top. Cost needs to become a factor in what is mandated for the operation of the BES. Compliance is pushing the cost of doing business through the roof. Customers and their advocates are getting fed up with the increased costs they are paying for the same service. They do not see the additional support and tools needed to have an effective compliance program and prevent fines. Do not pass requirements that will be overly burdensome to small utilities to fix a perceived problem with poor training. We can have well trained operators without breaking the bank. The inclusion of mandatory simulators contradicts previous public responses from FERC. This requirement is beyond a minimum standard, it is a "best practice". Leave it out of the standard!
Response: Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. The requirement specifies that the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that have operational authority or control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations. If an entity does not have authority or control over facilities with established IROLs or has not established operating guides or protection systems to mitigate IROL violations, then this requirement does not apply to the entity. **The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.** **With regards to your comment concerning "breaking the bank", it is beyond the scope of all standards to develop a standard based on costs. In the NERC Drafting Team Guidelines, Appendix C – FERC's Criteria for Approving Reliability Standards, it states "Should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost". The SPT SDT believes the standard as developed achieves the reliability goals and allows applicable entity the flexibility to comply using the most cost effective method available.**		
ISO/RTO Council - Standards Review Committee	No	Subrequirement 3.1 is overly prescriptive regarding how to accomplish training. The objective of this standard is to ensure the RC, TOP and BA develop and implement a training program for its system operators to deal with normal and emergency situations. Handling IROL violations is one of the tasks that an RC operator must be able to perform. How to achieve this training to meet the needed competency level should be left to the responsible entity. The NERC Operator Certification exercise is the vehicle to test the operators' knowledge of handling these situations, not the prescriptive tool for training. The following requirement 3.1 text referring to instructional applications in the current draft is

Organization	Question 3:	Question 3 Comments:
		excessively vague: "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." What does it mean to say "virtual technology, or other technology that replicates the operational behavior of the BES...." ? A clear language version of the intended text should be: "shall provide each System Operator with emergency operations training employing power flow results which replicate the operational behavior of the BES during normal and emergency conditions." If a simulator or virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions is required for RC, BA and TOP to facilitate system operator training, where justified, then it should be a requirement for organization certification, not for training program.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. **Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions.** **With regards to your comment concerning the competency level issue, the NERC Operator Certification and Organization Certification are outside the scope of the industry approved SAR used to develop this standard.** **The SPT SDT has considered your concern regarding "simulation technology or other technology that replicates the operational behavior of the BES during normal and emergency conditions" being unclear, however based on current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement. The SPT SDT is trying to allow for the use of other technology, not just a simulator, to achieve the desired outcome.**		
ISO New England Inc.	No	Subrequirement 3.1 is overly prescriptive regarding how to accomplish training. The objective of this standard is to ensure the RC, TOP and BA develop and implement a training program for its system operators to deal with normal and emergency situations. What does it mean to say, "virtual technology, or other technology that replicates the operational behavior of the BES...." ? A clearer language version of the intended text would be: "shall provide each System Operator with emergency operations training employing power flow results which replicate the operational behavior of the BES during normal and emergency conditions."
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.		

Organization	Question 3:	Question 3 Comments:
Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. **The SPT SDT has considered your concern regarding "simulation technology or other technology that replicates the operational behavior of the BES during normal and emergency conditions" being unclear, however based on current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement.**		
NPCC	No	R3.1 is overly prescriptive on how to accomplish training. The objective of this standard is to ensure that the RC, TOP, and BA develop and implement a training program for its system operators to deal with normal and emergency situations. Handling IROL violations is just one of the tasks that an RC operator must be able to perform. How to achieve this training to meet the needed competency level should be left to the responsible entity. The NERC Operator Certification exercise is the vehicle to test the operators' knowledge of handling these situations, not the prescriptive tool for training. If a simulator, virtual, or other technology that replicates the operational behavior of the bulk power system during normal and emergency conditions is required for RC, TOP, and BA to facilitate system operator training, then where justified, it should be a requirement for organization certification, not for a training program.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. **With regards to your comment concerning the competency level issue, NERC Operator Certification and Organization Certification are outside the scope of the industry approved SAR used to develop this standard.**		
SERC Standards Review Group	No	The consensus of this group is that the use of simulators for certain entities should not be mandated and that requirement R3.1 should be removed from the standard. Requirement R3 should be revised to allow every responsible entity the flexibility to meet its emergency operations training requirement using any or all of the following types of training: drills, exercises, training classes, or hands-on training using simulation. If Requirement 3.1 does remain in the standard, this group feels that entities mandated to use simulator training should be limited to Reliability Coordinators that have established IROLs within their coordinating footprint. In addition, the initial phrase in R3, "At least every 12 months" needs further clarification. We understand and appreciate the reason for changing the requirement for 32 hours of emergency training from every calendar year to every 12 months. This change was intended to permit

Organization	Question 3:	Question 3 Comments:
		an operator hired late in year to obtain his/her 32 required hours over a full 12 month period instead of just a month or two. However, this wording does not fully reflect this flexibility. The Drafting Team is requested to add some wording that clearly states that the 12-month period for this required 32 hours of training can be determined by the entity on a case-by-case basis, depending on an operator's specific circumstances.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. **The SPT SDT has considered your concern regarding the term "12 month period" not fully defining a specific period, however based on previous and current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement.**		
SRP	No	The Interconnection Reliability Operating Limit (IROL) should not be used to establish the applicability of this requirement, since the term itself is not well understood within the industry. Based on the obligations of the drafting team to clearly identify the applicability of the standard, it would be necessary for the drafting team to list all RCs, BAs and TOPs who have operational authority or control over Facilities with established IROLs.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. The SPT SDT believes that the use of the phrase "established IROLs or has established operating guides or protection systems to mitigate IROL violations" appropriately represent the impact of entities on the reliability of the BES. **The SPT SDT has considered your comment concerning the applicability obligation and feels the applicability is based on the industry approved SAR.**		
Ontario IESO	No	Subrequirement 3.1 is overly prescriptive on how to accomplish training. The objective of this standard is to ensure the RC, TOP and BA develop and implement a training program for its system operators to deal with normal and emergency situations. Handling IROL violations is one of the tasks that an RC operator must be able to perform. How to achieve this training to meet the needed competency level should be left to the responsible entity. The NERC Operator Certification exercise is the vehicle to test the operators' knowledge of handling these situations, not the prescriptive tool for training. If a simulator or virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions is required for RC, BA and TOP to facilitate system operator training, where justified, then it should be a requirement for organization certification, not for training program. Further, in order to be a measurable requirement, the functionality and use of a simulator would need to be specified.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order		

Organization	Question 3:	Question 3 Comments:
693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. **With regards to your comment concerning the competency level issue, NERC Operator Certification and Organization Certification are outside the scope of the industry approved SAR used to develop this standard.**		
AEP	No	R3.1 - We disagree with the requirement to utilize a simulator for annual emergency operations training. Use of a simulator for training should be an option (not a requirement) for all entities. It should not just be optional for those entities without established IROLs. Also, discriminating in the requirement to have a simulator based on having an established IROL or guides/procedures to mitigate IROL violations, could cause a political view by an entity to avoid claiming an IROL to in turn avoid purchasing a simulator.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. The SPT SDT believes that the use of the phrase "established IROLs or has established operating guides or protection systems to mitigate IROL violations" appropriately represent the impact of entities on the reliability of the BES. **With regards to your comment concerning an entity trying to avoid purchasing a simulator, it is beyond the scope of all standards to develop a standard based on costs. In the NERC Drafting Team Guidelines, Appendix C – FERC's Criteria for Approving Reliability Standards, it states "Should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost". The SPT SDT believes the standard as developed achieves the reliability goals and allows applicable entity the flexibility to comply using the most cost effective method available.**		
Santee Cooper	No	In R3.1 the SDT has tried to define what size entity is required to provide simulation training. Santee Cooper recommends removing R3.1 and revising R3 to read "to its organization that reflects emergency operations topics (which includes system restoration) using drills, exercises, training classes, or hands on training using simulations or other training required to maintain qualified personnel." This will provide flexibility for training within the companies and meets FERC's requirement of the use of simulators. The "at least every 12 months" wording in R3 needs to have additional wording added to allow for case by case basis. This change was intended to permit an operator hired late in year to obtain his/her 32 required hours over a full 12 month period instead of just a month or two. However, this wording does not fully reflect this flexibility.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities		

Organization	Question 3:	Question 3 Comments:
that have operational control over a significant portion of load and generation. **The SPT SDT has considered your concern regarding the term "12 month period" not fully defining a specific period, however based on previous and current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement.**		
Duke Energy	No	As written, R3.1 applies only to entities that have IROLs or operating guides or protection systems to mitigate IROL violations. Paragraph 1393 of Order 693 states that simulators should be used by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. The Standards Drafting Team should resolve this disconnect. R3.1 also uses undefined terms (simulation technology, virtual technology) that should be further clarified to reduce ambiguity. We also note and agree that while 36 months is allowed for implementation of R3.1, R3 is in effect now for emergency operations training.
Response: The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation. The SPT SDT believes that the use of the phrase "established IROLs or has established operating guides or protection systems to mitigate IROL violations" appropriately represents the impact of entities on the reliability of the BES. **The SPT SDT has considered your concern regarding "simulation technology or other technology that replicates the operational behavior of the BES during normal and emergency conditions" being unclear, however based on current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement.**		
Ohio Valley Electric Corporation	No	Emergency operations training should not be limited to the tasks "applicable to its organization." Many emergency operations topics are related to concepts and not tasks performed by System Operators. The task list developed in R1 could be used to identify some emergency operations training topics but will not cover all the topics that should qualify as emergency operations training.R3.1 is too specific/detailed to be included as a requirement in the standard. Place the details of R3.1 in a reference document or guide.PER-002 R4 currently defines emergency operations training clearly and is well understood and successfully implemented by the entities required to provide this training. PER-005 R3 should be revised to the wording in PER-002 R4.
Response: The SPT SDT believes that the standard as written provides for the flexibility you have described by allowing "other training required to maintain qualified personnel". **The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.**		
Southern Company Transmission	No	We disagree with mandating the use of a training simulator. R3. should be revised to allow an entity the flexibility of using any or all of the following training resources to meet its emergency operations

Organization	Question 3:	Question 3 Comments:
		requirement; drills, exercises, training classes or hands on training using simulation. This requirement is onerous. Less affluent entities that operate the BES, and also fall under NERC's purview will be hard pressed to afford a "simulator" that truly imitates their system. The purchase, model maintenance and operation of a simulator can be a financial burden for a smaller entity with an IROL.
Response: Requirement R3 states "using drills, exercises or other training required to maintain qualified personnel" and as such does allow an entity the flexibility of choosing training resources. The standard further simply delineates criterion for those entities that must provide 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. **The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.** **With regards to your comment concerning creating a financial burden on an entity, it is beyond the scope of all standards to develop a standard based on costs. In the NERC Drafting Team Guidelines, Appendix C – FERC's Criteria for Approving Reliability Standards, it states "Should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost". The SPT SDT believes the standard as developed achieves the reliability goals and allows applicable entity the flexibility to comply using the most cost effective method.**		
PowerSouth Energy Cooperative	No	Section of 3.1 is poorly worded. It is unclear what "simulation technology or other technology that replicates operational behavior" implies. Flexibility in the training including hands-on exercises, table top drills, classes should be allowed.
Response: The SPT SDT has considered your concern regarding "simulation technology or other technology that replicates the operational behavior" being unclear, however based on current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement. **Requirement R3 states "using drills, exercises or other training required to maintain qualified personnel" and as such does allow an entity the flexibility of choosing training resources. The standard further simply delineates criterion for those entities that must provide 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.** **The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.**		
Arizona Public Service Company	No	I suggest the following revisions:

Organization	Question 3:	Question 3 Comments:
		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, including system restoration using drills, exercises, or other training activities. R3.1. 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 based on the operational behavior of the BES during normal and emergency conditions. These changes maintain the intent of the requirement while allowing for flexibility in training methods.
Response: The SPT SDT thanks you for your clarifying comment. However, the SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.		
PJM Interconnection	No	As written, there is no minimum amount of simulator training needed to satisfy R3 (eg, using a "technology that replicates the operational behavior of the BES" for five minutes would meet the requirement). NERC Certification programs currently mandate that RC, BA, & TO system operators have 30 hours of simulator training over their three year certification period. A duplication here (with no minimum requirement) seems pointlessly redundant.
Response: The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation. **In the case of the NERC Certification Program mandating System Operators to have 30 hours of simulator training over the 3 year certification period, the NERC Certification Program is not a part of this standard. The Certification Program requires "training using a simulator" not "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". These are two different requirements, therefore no duplication exists. However, it would appear that if an entity could utilize one training method to complete two separate requirements, it would be in the best interest of the entity.**		
CenterPoint Energy	No	No. CenterPoint Energy believes that additional clarity is needed. R3.1 can be interpreted to mean that for the entities identified simulation technology must be used for (all) 32 hours of emergency operations training. This goes far beyond the directive from FERC in Order 693, paragraphs 1390-1391. CenterPoint Energy believes from the Consideration of Comments on the 3rd Draft? the intent is for the entities identified in R3.1 to include simulation technology within the at least 32 hours? of emergency operations training provided to each System Operator, which is consistent with the directive from FERC in Order 693, paragraphs 1390-1391.In R3.1, CenterPoint Energy proposes to replace "using" with

Organization	Question 3:	Question 3 Comments:
		"including the use of" to clarify the intent as discussed above. R3.1 would read as follows: R3.1. 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 including the use of simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.
Response: The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation. **In the case of the NERC Certification Program mandating System Operators to have 30 hours of simulator training over the 3 year certification period, the NERC Certification Program is not a part of this standard. The Certification Program requires "training using a simulator" not "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". These are two different requirements, therefore no duplication exists. However, it would appear that if an entity could utilize one training method to complete two separate requirements, it would be in the best interest of the entity.**		
BCTC	No	Using simulation to deliver training which may be developed out of R1.4 requires a guideline or a clear number of hours for an entity to determine how many hours should be required to meet the standard. Or, if an entity has no task identified that requires simulation according to the definition in the Standard, then the Standard should reflect completion of your annual NERC certification requirements for certification renewal, i.e. a minimum 10 hours of simulation. We would support 10 hours of simulation training.
Response: The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation. **This standard also does not define the use of simulation to deliver the training for the BES company-specific reliability-related tasks.** **The NERC Certification Program is outside the scope of this standard.**		
WECC Operations Training Subcommittee	No	The WECC OTS believes using simulation to identify training which may be developed out of R1.4 and believes a guideline is needed to determine how many hours should be required in this standard. Or, if no task is identified, then the standard should reflect completion of your annual NERC certification requirements for certification renewal, i.e. a minimum of 10 hours of simulation.
Response: The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation.		

Organization	Question 3:	Question 3 Comments:
This standard also does not define the use of simulation to deliver the training for the BES company-specific reliability-related tasks. **The NERC Certification Program is outside the scope of this standard.**		
Ameren	No	What is "other training required to maintain qualified personnel"? Why not just say "using drills, exercises, or other methods of training".
Response: The SPT SDT is not trying to define all types of emergency operations training to conduct, but is instead allowing the individual Reliability Coordinator, Balancing Authority or Transmission Operator to determine what type of emergency operations training is needed for their particular system. The phrase "other training required to maintain qualified personnel" was added based on previous industry comments received.		
E.ON U.S. LLC	No	The standard does not define what is considered a simulation/simulator training platform. E.ON U.S. does use internal and vendor provided emergency system simulator training. In most programs the emergency conditions embedded in the training programs while not specific to E.ON U.S. operations represent conditions that can reasonably be expected to surface during times of system emergencies.. Therefore, these simulation/simulator training provide valuable framework from which to develop specific operator protocols to follow when experiencing system emergencies. Once again E.ON U.S. requests that NERC either better define what it considers a simulation/simulator training or allow each entity to demonstrate that training currently provided is sufficient to meet the standards.
Response: The standard does not preclude the use of external training simulation not specific to the entity. The standard states that if an entity meets the criteria in Requirement 3.1 that emergency operations training must 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. **With regards to your comment concerning demonstrating that current training provided meets the standard, it is the responsibility of the Reliability Coordinator, Balancing Authority or Transmission Operator to demonstrate compliance with the standard.**		
PSEI	No	Who this applies to is still very vague and open to interpretation by auditors. Performing a Google search on "WECC IROL" will produce a "philosophy" document that states "The WECC does not have any IROLs under normal operation, but an SOL condition, depending upon the operating conditions, could become an IROL condition, which would be determined post-analysis." I am afraid of entities honestly believing that this standard does not apply to them, but suddenly finding themselves fined because an auditor believes everyone has IROLs or SOLs that could become IROLs. Perhaps the standard could ask the RRO to further define who this applies to. Of course, nothing would prevent the region from putting out an overly burdensome definition.
Response: The requirement specifies the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that have operational authority or control over Facilities with established IROLs or has established operating guides or protection systems to mitigate IROL violations. If an entity does not have authority or control over facilities with established IROLs or has not established operating guides or protection systems to mitigate IROL violations, then this requirement		

Organization	Question 3:	Question 3 Comments:
does not apply to the entity.		
MRO NSRS	No	The SPT SDT has done a great job on R3.1 but we wonder about R3. R3 mentions other system specific emergency training available to maintain qualified personnel is there a way that the SDT can clarify what type of training is acceptable? Is attending any NERC workshop acceptable? Perhaps, the SDT could suggest some examples and place them in the PER-005 System Personnel Training Reference Document.
Response: The SPT SDT has a list of emergency operations training topics that could be included in the training in the Reference Document associated with this Standard.		
Great River Energy	No	GRE recommends replacing the existing phrase "other training required to maintain qualified personnel" with the following text "or other system specific emergency training available to maintain qualified personnel"
Response: The SPT SDT has considered your comment regarding replacing the phrase "other training required to maintain qualified personnel", however the SPT SDT believes the current wording provides sufficient clarity to the requirement.		
Pacific Gas and Electric Company	Yes and No	We recognize that utilizing a simulator for training can greatly enhance the operator's awareness of system conditions and can enable them to respond in a training environment to simulated events which will not lead to an actual cascading event or collapse of the BES. In many cases of an operator's career, this would constitute approximately 10% or less of their actual work time and what they need to know and how to respond to an emergency situation. This additional requirement for some smaller entities that operate within the BES may create financial burdens with the required purchase, model maintenance and operation of a simulator that imitates their system. We recommend R3. be revised to allow an entity the flexibility of using any or all of the following training resources to meet its emergency operations requirement; drills, exercises, training classes or hands on training using simulation.
Response: With regards to your comment concerning creating a financial burden on an entity, it is beyond the scope of all standards to develop a standard based on costs. In the NERC Drafting Team Guidelines, Appendix C – FERC's Criteria for Approving Reliability Standards, it states "Should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost". The SPT SDT believes the standard as developed achieves the reliability goals and allows the applicable entity the flexibility to comply using the most cost effective method. **The SPT SDT believes that the requirement as written provides for the flexibility as described in your comment.**		
FirstEnergy	Yes and No	We agree that the addition of R3.1 more clearly specifies when simulators, or simulation technology, is required. However, the duration of required simulator training is not specified in R3.1. We would not want an auditor to think that you would need 32 hours of simulator training since using simulation technology would only be a part of all the training tasks. In R3.1, we suggest the SDT specify that a duration of at least 1 hour of simulation training shall be part of the 32 hours of emergency operations training.
Response: The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying		

Organization	Question 3:	Question 3 Comments:
to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation. **The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.**		
WECC Reliability Coordination Comment Working Group	Yes and No	It does a better job of clarifying what entities must use simulation, but it does not specify what number of EOP hours must be simulation only. We suggest that the number of hours be determined by the entity itself utilizing the requirements in PER 005 R1.4.
Response: The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation.		
FRCC System Operator Subcommittee		FRCC disagrees with tying the requirement to SOL/IROL remediation. FRCC also disagrees with having to have a simulator. While they are good tools, a generic simulator (that replicates the response of the BES) is not the cure-all for training in system response (including restoration). A good table-top on an entity's own system will provide better understanding of the operators own system and how to restore it. Many small entities are quite capable of producing quality training with a table-top. Do not pass requirements that will be overly burdensome to small utilities to fix a perceived problem in the value of training on simulators as compared to table-top exercises. We can have well trained operators without breaking the bank. The inclusion of mandatory simulators contradicts previous public responses from FERC. This requirement is beyond a minimum standard, it is a "best practice". Leave it out of the standard!
Response: Requirement 3.1 uses IROLs as a delineating criterion for those entities that must provide 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 and is not limiting the emergency operating training under simulation to only address IROL operating conditions. The requirement specifies that the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that have operational authority or control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations. If an entity does not have authority or control over facilities with established IROLs or has not established operating guides or protection systems to mitigate IROL violations, then this requirement does not apply to the entity. **The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.** **With regards to your comment concerning "breaking the bank", it is beyond the scope of all standards to develop a standard based on costs. In the NERC Drafting Team Guidelines, Appendix C – FERC's Criteria for Approving Reliability Standards, it states "Should**		

Organization	Question 3:	Question 3 Comments:
achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost". The SPT SDT believes the standard as developed achieves the reliability goals and allows the applicable entity the flexibility to comply using the most cost effective method.		
American Transmission Company	Yes	Suggestion on the 12 months: The SDT had the following statement to ATC's previous comment: "THE SPT SDT did not intend to define the 12 month period for providing emergency operations training. The SPT SDT believes that this period should be defined by the individual entity on a case-by-case basis. The SPT SDT revised the condition for Requirement 3 from annually to every 12 months to allow for the situations of new hires late in the calendar year."ATC understands the SPT SDT position on the 12 month period, but believes that the standard should contain this clarity. ATC suggests that the Requirement 3 contain a footnote describing the SPT SDT meaning of the 12-months.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. **The SPT SDT has considered your concern regarding the term "12 month period" not fully defining a specific period, however based on previous and current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement and therefore feels a footnote is not needed.**		
Entergy - System Planning & Operation (Generation)	Yes	However the number of hours required is not clear; is there a minimum number of hours of the 32 that must meet this simulation technology requirement?.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. **The SPT SDT is not mandating a minimum number of hours that an entity must train on a simulator. The SPT SDT is trying to allow the Reliability Coordinator, Balancing Authority or Transmission Operator to determine what level of simulation training is required for their specific situation.**		
Orlando Utilities Commission	Yes	Placing examples directly within the body of text leads to ambiguity. In this case it would appear that drills are only applicable to system restoration. I would recommend always placing examples of items within parentheses, producing:... emergency operations topics (including system restoration) using drills, exercises ...As far as using simulation, I think that the requirement is fairly clear however I hate to bring up that the requirement does not specify that the clock-time of the simulations must use actual clock time and not artificially slowed down events.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. **The SPT SDT is specifying that system restoration must be a part of the 32 hours of emergency operations training. The requirement does not limit training to only system restoration. The standard allows for each entity to develop training specific to their needs.**		
Manitoba Hydro	Yes	MHEB agrees that the revision more clearly describes the types of training and which entities must provide simulation/simulator training.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		

Organization	Question 3:	Question 3 Comments:
Public Service Commission of South Carolina	Yes	
Seattle City Light	Yes	
Bonneville Power Administration	Yes	
Wapa (Loveland, Co)	Yes	
Pepco Holdings, Inc. - Affiliates	Yes	
Hydro One Networks	Yes	
PPL Electric Utilities	Yes	
Transmission System Operations - Baltimore Gas & Electric		
Standards Interface Subcommittee/Compliance Elements Drafting Resource Pool		

4. The SPT SDT modified the Data Retention section of this Standard to provide clarity: "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall keep data or evidence to show compliance, for three years or since its last compliance audit, whichever time frame is the greatest, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation." Do you agree that this Standard now clearly defines the period for which compliance records must be kept? If not, please explain in the comment area

Summary Consideration:

The overwhelming majority of the industry participants responding agreed the revisions to the Data Retention section provided improved and sufficient clarity. One responder misunderstood the use of a measure. The SPT SDT explained that measures were proxies to assess required performance or outcomes.

Organization	Question 4:	Question 4 Comments:
MRO NSRS	No	The SPT SDT has done a great job in revising the Data Retention sections of PER-005-1 Draft 4 and PER-004-1 but we were wondering, each standard states that ?the Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.? (This statement usually appears at the end of the section.) We would like to see this statement removed from the standard since the Compliance Enforcement Authority is not a user, owner, or operator of the Bulk Power System. This statement should be made in the Compliance Monitoring and Enformcement Programs.
Response: As you have stated this is part of all standards. Your comment is outside scope of this standard and will be forwarded on for consideration in the future.		
WECC Reliability Coordination Comment Working Group	Yes and No	Yes the measure is clear but we believe the measure should be reflected in the requrement. The measure expects more information be retained than the requirement identifies.
Response: Measures are used to assess performance and outcomes for the purpose of determining compliance with the requirements. Measures are proxies to assess required performance or outcomes.		
Bonneville Power Administration	Yes	
Manitoba Hydro	Yes	MHEB agrees that the revision clearly states the record retention period.
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
Ohio Valley Electric Corporation	Yes	Less is often better!
Response: The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
NorthWestern Corporation	Yes	

Organization	Question 4:	Question 4 Comments:
Ameren	Yes	
NPCC	Yes	
PJM Interconnection	Yes	
Seattle City Light	Yes	
Southern Company Transmission	Yes	
Arizona Public Service Company	Yes	
Wapa (Loveland, Co)	Yes	
Pepco Holdings, Inc. - Affiliates	Yes	
Orlando Utilities Commission	Yes	
E.ON U.S. LLC	Yes	
SERC Standards Review Group	Yes	
PowerSouth Energy Cooperative	Yes	
PSEI	Yes	
FRCC System Operator Subcommittee	Yes	
Hydro One Networks	Yes	
Entergy - System Planning & Operation (Generation)	Yes	
City Of Tallahassee (TAL)	Yes	
BCTC	Yes	
ISO/RTO Council - Standards Review Committee	Yes	
WECC Operations Training Subcommittee	Yes	
Ontario IESO	Yes	
AEP	Yes	
Great River Energy	Yes	

Organization	Question 4:	Question 4 Comments:
PPL Electric Utilities	Yes	
Pacific Gas and Electric Company	Yes	
Santee Cooper	Yes	
American Transmission Company	Yes	
Public Service Commission of South Carolina	Yes	
Duke Energy	Yes	
FirstEnergy	Yes	
ISO New England Inc.	Yes	
CenterPoint Energy		
Transmission System Operations - Baltimore Gas & Electric		
Standards Interface Subcommittee/Compliance Elements Drafting Resource Pool		
SRP		

5. Please provide any other comments (that you have not already provided in response to the questions above) that you have on the draft standard PER-005.

Summary Consideration:

The primary focus of the comments received in the "Other Comments" section centered on comments already addressed in Questions 1, 2 and 3. These items included the use of a systematic approach to training, the number of hours of simulator training and interpretation of this standard by an auditor. The SPT SDT restated its response provided from the previous questions.

The only other prevailing comment concerned the VSLs and how they were set. The SPT SDT explained that the VSLs are determined in accordance with the Violation Severity Levels Development Guidelines Criteria. The SPT SDT further explained that the VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide a more consistent application when determining VSLs and that this document was a product developed jointly by the stakeholder drafting teams and Subject Matter Experts, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.

Organization	Question 5 Comments:

Organization	Question 5 Comments:
PJM Interconnection	SAT, while a valid training process is not without its shortcomings, or the only acceptable method to develop training. This is especially true in the area of just-in-time training. Mandating a training development process is not conducive to a reliability standard, and would be difficult to monitor for compliance. The standard as written mandates a "How-to" approach which is not within scope of a reliability standard. This standard would divert the already scarce training resources away from training operators to the administrative work of documenting every step of the training process to ensure compliance with the standard. It could have the unintended consequence of actually reducing the number of training hours the operators receive. Ultimately, training effectiveness will be measured by compliance with existing reliability standards. That being said, the objective is to ensure qualified system operators. PJM supports the parallel implementation of hourly training requirements for continuing education as well as initial training. NERC has a Continuing Education Program that ensures high quality training, and sets forth a structure using Continuing Education Hours (CEHs) for "NERC Certified Operators". While NERC has continually stated that the CEH program is separate from the standards, little justification has been provided for this separation. Thus, redundant and possibly conflicting training requirements are being proposed. NERC has stated, in it's 2008 budget, that the CEH program ""promotes excellence" and "advances improved performance". Utilizing the CEH approach, PJM would support the increase of the training time required under R3 to at least 100 CEHs annually with category breakdown (i.e. simulation, standards, EOP) as specified in the NERC Certification program. PJM also proposes that for new operators, R2 be replaced with a fixed training hour requirement that is broken down into specific areas (such as job assignments, NERC Standards, tools, internal procedures, etc.). This initial training requirement would be analogous to the CEH program for existing operators, but focused on specific categories related to the initial requirements of the job. PJM would suggest that the SDT post this idea for industry comments.
Response: **This standard is being developed based on the Industry Approved SAR.** **Concerning your comments regarding the Continuing Education Program, this is outside the scope of the industry approved SAR.**	
Southern Company Transmission	We are concerned with the current draft of PER-005. It is likely that auditors will consistently disagree with the composition of an entity's reliability related task list. Ambiguous subjective requirements have no place in a mandatory reliability standard. A better approach would be to capture in this standard the continuing education requirements and categories by type of NERC certification.
Response: The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program. **Concerning your comments regarding the Continuing Education Program, this is outside the scope of the industry approved SAR.**	

Organization	Question 5 Comments:
Arizona Public Service Company	Simplify step R1.1.1 as follows: Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall review its list of BES company-specific reliability-related tasks performed by its System Operators at least annually to ensure the list's adequacy.
Response: The SPT SDT has considered your suggested modification, however based on previous and current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement.	
Pepco Holdings, Inc. - Affiliates	For the Violation Risk Factors for R1, High and Severe, all the references to -when developing a new or modifying an existing training program- should be removed. This language is no longer a part of the Requirements. Additionally, the High and Severe VSLs should reflect that R1.1, R1.2 and R1.3 should all be at the same severity level because all are equally important to meeting the standard.
Response: The SPT SDT has considered your suggested modification to the VSLs and is in agreement with your comment. The references to "developing a new or modifying an existing program" have been removed.	
E.ON U.S. LLC	E .ON U.S. generally supports the intent of the PER-005 standard, but it does not believe that following the Systematic Approach to Training. While E.ON U.S. acknowledges that formal operator training is essential for the safe and reliable operation of the electricity system, it is concerned that any incremental reliability gains derived from implementing the SAT process may not be worth the substantial cost for companies and their customers. - E.ON U.S. believes that utilities should have the ability to outline and tailor their training programs to reflect the unique characteristics of their systems and the unique circumstances that each operator is likely to confront in the operation of the system. Many parties already have developed and will continue to conduct extensive and highly effective training of their operations staff. Absent some demonstration of substantial incremental benefit, a standard requiring utilities to start from scratch with a formal SAT process will be unjustifiably burdensome, distracting, and require a complete reallocation of already limited resources, all to the potential detriment of continued safe and reliable operations. - E.ON U.S., as well as many other parties, currently trains their system operators through many processes. For E.ON U.S., all new hires are required to complete a structured training program that covers all areas of operations during normal and emergency system conditions. This training is in the form of structured classroom and/or NERC certified vendor training plus direct instruction from supervisory operators through the use of actual control room equipment and, where appropriate, simulators. No operator is allowed to independently work until the supervisory personnel has certified that training has been completed and the employee has satisfactorily demonstrated proficiency in all identified tasks through the successful completion of a rigorous testing program. - All existing operators that have been certified as being proficient at a journeyman level will receive annual refresher instruction and training, both through vendor and simulator training programs to, again, guarantee that operators have a mastery of all tasks required of them. - E.ON U.S. believes, therefore, that its current training program, while not identical with the DOE SAT

Organization	Question 5 Comments:
	process, achieves the same goals and objectives of having well-trained and proficient system operators in place, and in maintaining a rigorous training regimen to keep those skills at the highest attainable levels. Such a program provides systematic, company specific training programs and processes that meet the requirements of PER-005. Companies should be able to demonstrate that their training programs are equal or superior to programs that are identified in the SAT process. – Identification of critical tasks and training necessary to ensure that system operators possess the skills necessary to complete the task is utility specific. Employing a cookie cutter approach as identified by the SAT process seems to largely ignore utility differences. Existing training programs should not be overhauled by use of the SAT unless these programs prove to be deficient.
Response: This standard is based on the industry approved SAR and requires that a systematic approach to training process be applied to all system operator training for reliability-related tasks, either new or existing. The requirement to use a systematic approach to training is a directive from FERC Order 693. In addition, there are multiple variations of a systematic approach to training and this standard is not prescribing the use of any specific SAT methodology. Each entity may select its own SAT methodology as long as it includes the elements identified in sub-requirements R1.1 to R1.4. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard. **(1) DOE-HDBK-1078-94, A Systematic Approach to Training** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf** **(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html** **(3) ADDIE – 1975, Florida State University** **http://www.nwlink.com/~donclark/history_isd/addie.html** **(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96** **http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf** **With regards to your comment concerning "the substantial cost", it is beyond the scope of all standards to develop a standard based on costs. In the NERC Drafting Team Guidelines, Appendix C – FERC's Criteria for Approving Reliability Standards, it states "Should achieve a reliability goal effectively and efficiently - but does not necessarily have to reflect "best practices" without regard to implementation cost". The SPT SDT believes the standard as developed achieves the reliability goals and allows the applicable entity the flexibility to comply using the most cost effective method.**	
PSEI	I believe there needs to be further clarification of a couple of points in R3. The change to "at least every 12

Organization	Question 5 Comments:
	months" is a compliance nightmare. Does this mean each operator shall have 32 hours for any consecutive 12 month period? Could this mean every calendar year? Does this mean there is a compliance violation if an operator completes a course 12 months and 1 day from the last completion date? Some regional exercises are held annually for operators to complete the 32-hr emergency training. If this training is held a week later the next year, are the entities in violation? I know I will get the response that this is outside the scope of the drafting team, but entities need to know how they are expected to be compliant to the standard as it is written. The use of the term annually in this application differs from updating a document annually. Does it mean within 365 days? Also, the addition of company-specific adds another dynamic to the existing requirement. This now adds another layer of paperwork to the entities that are using vendors to meet their requirements. If an entity is strapped for bodies to create their own training courses, why burden them with linking tasks to vendor courses. This again opens the door to an auditor's opinion of what training is "company-specific" and what is adequate proof. It should remain worded as the current standard.
Response: The SPT SDT has considered your concern regarding the term "12 month period" not fully defining a specific period, however based on previous and current industry comments the SPT SDT feels the present wording provides sufficient clarity to the requirement. **To be in compliance the training must be conducted within 12 months.** **The SPT SDT understands your concern about interpretation of standards by an auditor. However, this is outside the scope of the Standard Development Process and is addressed in the Compliance Monitoring and Enforcement Program.** **This standard is being developed based on the Industry Approved SAR.**	
FRCC System Operator Subcommittee	FRCC does not agree that any Violation Severity Level should be higher than "Moderate" regarding system personnel training.
Response: The VSLs are determined in accordance with the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide a more consistent application when determining VSLs and that this document was a product developed jointly by the stakeholder drafting teams and Subject Matter Experts, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.	
Hydro One Networks	A measure for R1.1.1 is missing. We recommend adding the words "? and R1.1.1" to the end of Measure M1.1 and replace the word "revision" with "update and/or review". Considered adding the following to the High VSL for R3: "? OR The responsible entity provided less than 32 hours of emergency training to its System Operators (R3). Can we assume standard PER-004-2 Reliability Coordination - Staffing will eventually be updated and completed within Project 2006-01's timeframe?
Response: The SPT SDT thanks you for your comment concerning Measure M1.1 and will modify the measure.	

Organization	Question 5 Comments:
Regarding the concern that the requirement of providing 32 hours of emergency operations training not being addressed in the VSLs - the VSLs, as presently written, address the issue of providing less than the required number of hours of emergency training. In the instance of an entity only providing 30 hours of emergency training to all of its system operators, that entity would have provided 32 hours of emergency operations training to 0% of the system operators and therefore would be deemed non-compliant. **The Implementation Plan references any requirement in PER-004-2 that is affected by this standard. Any requirement in PER-004-2 that is not referenced in the Implementation Plan is outside the scope of the industry approved SAR.**	
Entergy - System Planning & Operation (Generation)	The second sentence of the PURPOSE section needs to be deleted as it is more of a statement which adds no value to the purpose. Suggest revising the PURPOSE to include concepts of R1 (see response to question 1 above). R2 - How would this apply to System Operators who are currently "qualified" by their entities to fulfill the on-duty position of a System Operator? i.e. - is there some sort of "grandfather" status? R2 - recommend modifying the phrase "at least one time" to "prior to independently staffing a real-time System Operator role", if the intent is to have the individual demonstrate the ability prior to being allowed to staff the on-duty System Operator position. R2 - is there any consideration to "proficiency" of a System Operator who has performed this task once? If an operator demonstrated the ability once 5 years ago, is it still ok? R2.1 - the length of time to verify System Operators abilities on new or modified tasks should not be longer that 3 months. Ideally, the System Operator would be trained prior to assuming the next watch. R3 - why 12 months instead of annually? Is there a difference? Is this intentional? R3 - the phrase "?required to maintain qualified personnel." should be deleted. "Qualified personnel" is not adequately defined or described and should not be used. M1.4 - seems to address on-going evaluations rather than a formal annual evaluation, unless a collective annual review of the items specified in M1.4 is the intent. M3 - what constitutes "training records"? Is the same as what is specified in M1.3? If so, then state as such. VSLs need to be reevaluated such that SEVERE would indicate a complete lack of a documented program. The scoring method used to rate several VSLs could be "shifted to the left" such that they fall into the Lower, Moderate, and High, instead of completely not using the Lower rating.PER-004-2R2 - consider strengthening

Organization	Question 5 Comments:
	the language of this requirement or deleting all together. The terms "particular attention" and "best available" are subjective. Regarding formatting when deleting requirements, is it proper to just shift everything up to fill in the deleted requirement or should it be annotated as "deleted" and the so that the remaining requirements still retain their original requirement number? For example, the proposed R2 was formerly R5. Changing the requirement number will create a logistical/tracking problem for many entities.
Response: The Purpose statement in the standard is from the industry approved SAR. **This standard does not allow for "grandfathering" of System Operators.** **With regards to your comment concerning Requirement R2, the individual would be in compliance with this standard. It should also be noted that it is up to the individual entity to determine how the standard is to be implemented within its own organization.** **The SPT SDT believes that reducing the six month re-verification window of Requirement 2.1 to a 30 day window would be too burdensome on an entity due to the shift schedules associated with a System Operators work environment.** **The SPT SDT did not intend to define the 12 month period for providing emergency operations training. The SPT SDT believes that this period should be defined by the individual entity on a case-by-case basis. The SPT SDT revised the condition for Requirement 3 from "annually" to "every 12 months" to allow for the situation of new hires late in the calendar year.** **The phrase "other training required to maintain qualified personnel" was added based on previous industry comments received. This phrase is also from the current PER-002 which was approved by the industry, NERC and FERC.** **The standard requires that at least one time during the year a review of the training program will be completed. However, the standard does not preclude "on-going" review to occur. In addition, it is the responsibility of the individual Reliability Coordinator, Balancing Authority or Transmission Operator to provide evidence of compliance with the standard.** **The VSLs are determined in accordance with the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide a more consistent application when determining VSLs and that this document was a product developed jointly by the stakeholder drafting teams and Subject Matter Experts, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.** **With regards to your comments concerning PER-004-2 and the requirement numbering method are outside the scope of this standard.**	
Ohio Valley Electric Corporation	The Violation Severity Levels are all skewed towards the severe level. The Violation Severity levels should be skewed towards the lower level. With the lack of assessment or evaluation of the effectiveness of existing

Organization	Question 5 Comments:
	training programs required by PER-002 R3, why work to create a new training standard? With the lack of such an assessment, the work to develop a new training standard is not a judicious use of limited resources in order to strengthen the reliability of the bulk electric system. The NERC operation certification program already determines that operators possess the minimal requirements to reliably operate the bulk electric system. Why should a training program duplicate the certification process? Currently there is ample incentive to have operators trained on company-specific tasks. An operator who is not capable of performing company specific task will not remain an operator at that company.
Response: The VSLs are determined in accordance with the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide a more consistent application when determining VSLs and that this document was a product developed jointly by the stakeholder drafting teams and Subject Matter Experts, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. **The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee. Order 693 includes a directive to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant portion of load and generation.** **Concerning your comments regarding the Continuing Education Program, this is outside the scope of the industry approved SAR.**	
City Of Tallahassee (TAL)	No Violation Severity Level should be higher than "Moderate" regarding system personnel training!
Response: The VSLs are determined in accordance with the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide a more consistent application when determining VSLs and that this document was a product developed jointly by the stakeholder drafting teams and Subject Matter Experts, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.	
BCTC	The Standard drafting team stated in the implementation plan for R3 that it is presently in effect and will remain in effect, but the SDT added two significant changes to this requirement. This results in additional work by the entities to meet these changes and additional time to implement these changes. We recommend a 12 month implementation plan for the new R3 to allow entities to become compliant.? "5. Proposed Effective Date for Regulatory Approvals:" "5.2. Requirement R3 is presently in effect and will remain in effect upon approval of this Standard."? 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 restoration using drills, exercises or other training required to maintain qualified personnel. [Risk Factor: Medium] [Time Horizon: Long-term Planning]
Response: The SPT SDT thanks you for your comment concerning the effective date for Requirement R3 and has modified the effective date.	

Organization	Question 5 Comments:
The SPT SDT has considered your recommendation for a 12 month implementation period for Requirement R3, however the SPT SDT does not feel that the changes made to Requirement R3 have modified the intent of the existing requirement PER-002 Requirement R4 and PER-004 Requirement R2 and therefore does not believe the change is necessary.	
WECC Operations Training Subcommittee	The WECC OTS questions the following statement and believes R3 has not been approved in PER-005 and would like the implementation date effective 12 months after the first day of the first calendar quarter following applicable regulatory approval:? "5. Proposed Effective Date for Regulatory Approvals:" "5.2. Requirement R3 is presently in effect and will remain in effect upon approval of this Standard."? 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 restoration using drills, exercises or other training required to maintain qualified personnel. [Risk Factor: Medium] [Time Horizon: Long-term Planning]
Response: The SPT SDT thanks you for your comment concerning the effective date for Requirement R3 and has modified the effective date. **The SPT SDT has considered your recommendation for a 12 month implementation period for Requirement R3, however the SPT SDT does not feel that the changes made to Requirement R3 have modified the intent of the existing requirement PER-002 Requirement R4 and PER-004 Requirement R2 and therefore does not believe the change is necessary.**	
MRO NSRS	R 1.4 should be deleted it is covered by R 1.1.1, by adding "and shall implement the changes identified" to R 1.1.1 will give clear direction to registered entities. M 1.2 It will be impossible to provide all training support material for off site audits. Training programs may consist of computers, energy management system, facilities (generation plants, back up control centers, etc.) these can not be "boxed up" and supplied to an off site audit. We would like to see a footnote or note that recognizes that certain training items, such as EMS systems, are excluded. M 1.3 places required items as measures that are not in R 1.3. Requirements need to match the Measurements, exactly. M 1.4 places required items as measures that are not in R 1.4. Requirements need to match the Measurements, exactly. Under Data retention, 1.4.2 and 1.4.3 need to state that they have been removed instead of deleting the statement. Is it possible to say “Not Applicable” under section 1.2 (“Compliance Monitoring Period and Reset”) of the standard PER-005-1; this standard has this phrase.

Organization	Question 5 Comments:
	On page 26 of 73, the NERC Drafting Team Guidelines dated July 1, 2007 states that the compliance monitoring period is when the performance or outcome of a requirement is measured. Is it true that this standard's performance is not measured? The MRO doesn't think the Compliance Enforcement Authority is going to want to have its hands tied for three years until they can assess whether the entity is on track to meeting the requirements listed in the standard. The use of the term "customer" is a little out there. In the PER-005 System Personnel Training Reference Document, the reference #1: Determining Task Performance Requirement lists a question "What response from the customer must be accomplished?" Please define what a customer is.
Response: The SPT SDT disagrees with your comment concerning Requirement R1.1.1 and Requirement R1.4. Requirement R1.1.1 addresses changes in tasks while Requirement R1.4 addresses changes to the program. **The applicability of the standard is to the Reliability Coordinator, Balancing Authority or Transmission Operator, because of this, off-site audits will not be conducted. The standard does not require the entity to send out its evidence – the measures all use the phrase, "shall have available for inspection."** **With regards to your comment concerning Measures M1.3 and M1.4, measures are used to assess performance and outcomes for the purpose of determining compliance with the requirements. Measures are proxies to assess required performance or outcomes.** **The SPT SDT has considered your suggested modification to the Data Retention section of the standard, however based on previous and current industry comments and the lack of clear industry consensus, the SPT SDT feels that no change is necessary.** **The SPT SDT disagrees with your comment concerning the Compliance Enforcement Authority having its hands tied for three years. The standard allows for compliance monitoring through compliance audits, self certifications, spot checking, compliance violation investigations, self-reporting and complaints.** **The SPT SDT has provided information in the Reference Document that an entity may use in development of their training program. However, this information does not contain requirements and is provided only as a guideline.**	
Great River Energy	R 1.4 should be deleted it is covered by R 1.1.1, by adding "and shall implement the changes identified" to R 1.1.1 will give clear direction to registered entities. M 1.4 should be moved to M1.1 with the recommended deletion of R1.4 above. GRE recommends that the percentages referenced under R2 and R3 in the VSLs be replaced with specific quantities of items missed.
Response: The SPT SDT disagrees with your comment concerning Requirement R1.1.1 and Requirement R1.4. Requirement R1.1.1 addresses changes in tasks while Requirement R1.4 addresses changes to the program. **The SPT SDT has considered your comment concerning the VSLs. However, based on previous industry comments and the lack of clear industry consensus the SPT SDT does not feel that a modification is necessary. In addition, the use of specific quantities**	

Organization	Question 5 Comments:
instead of percentages is not practical considering differences in the number of company-specific reliability-related tasks and the number of system operators within each organization.	
Transmission System Operations - Baltimore Gas & Electric	The "Systematic Approach to Training" training should be offered as soon as possible. 24 months to complete a training program is a very aggressive schedule, so there is a need to start these activities in the near term.
Response: Upon NERC BOT approval of this standard, the SPT SDT will coordinate with NERC to schedule the training referenced in the Implementation Plan.	
Pacific Gas and Electric Company	Under "5. Proposed Effective Date for Regulatory Approvals:" "5.2. Requirement R3 is presently in effect and will remain in effect upon approval of this Standard." Since PER-005 has not been approved, 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 restoration using drills, exercises or other training required to maintain qualified personnel.", has not been approved. This is a change in the language from PER-002 R4 "For personnel identified in Requirement R2, each Transmission Operator and Balancing Authority shall provide its operating personnel at least five days per year of training and drills using realistic simulations of system emergencies, in addition to other training required to maintain qualified operating personnel." We recommend the implementation date effective 12 months after the first day of the first calendar quarter following applicable regulatory approval"
Response: The SPT SDT thanks you for your comment concerning the effective date for Requirement R3 and has modified the effective date. **The SPT SDT has considered your recommendation for a 12 month implementation period for Requirement R3, however the SPT SDT does not feel that the changes made to Requirement R3 have modified the intent of the existing requirement PER-002 Requirement R4 and PER-004 Requirement R2 and therefore does not believe the change is necessary.**	
American Transmission Company	In R3, ATC suggests to move "At least every 12 months" to between "training" and "applicable". We feel that it changes the meaning of the sentence to more accurately reflect that each operator is required to have the required training within a 12 month window. ATC continues disagrees with the SPT SDT VSL's for Requirement 2 and 3. (Please see our comments during the last comment period.) Requirement 2 and 3: The VSLs continue to be based on pass/fail concept and do not represent the extent to which an entity did not comply with the requirement. Requirement 2 should include a component that represents the number of task(s) not completed. Requirement 3 should include a component that represents the number of emergency hours that not completed. PER-004-2 Proposed Effective Date: ATC believes that there is an error in the proposed effective date section based on our review of the red-line version of PER-004-2. The proposed effective date states that requirement 5 is being deleted but it seems that requirement 5 is being re-numbered as requirement 2. This inconsistency should be corrected.

Organization	Question 5 Comments:
Response: The SPT SDT thanks you for your comment regarding the re-wording of Requirement R3. However, based on previous industry comments and the lack of clear industry consensus the SPT SDT does not feel that a modification is necessary. **The SPT SDT thanks you for your comment concerning PER-004-1 Requirement R5 and will make the necessary correction.** **The SPT SDT has considered your comment concerning the VSLs. However, based on previous industry comments and the lack of clear industry consensus the SPT SDT does not feel that a modification is necessary. In addition, it would not appear to be practical considering differences in the number of company-specific reliability-related tasks and the number of system operators within each organization.** **Regarding the concern that the requirement of providing 32 hours of emergency operations training not being addressed in the VSLs - the VSLs, as presently written, address the issue of providing less than the required number of hours of emergency training. In the instance of an entity only providing 30 hours of emergency training to all of its system operators, that entity would have provided 32 hours of emergency operations training to 0% of the system operators and therefore would be deemed non-compliant.**	
Public Service Commission of South Carolina	The PSCSC suggests that the concept of "Systematic Approach to Training", used in PER-005-1, be defined in the standard or in the Glossary pertaining to all standards.
Response: There are multiple variations of a systematic approach to training and this standard is not prescribing the use of any specific SAT methodology. Each entity may select its own SAT methodology as long as it includes the elements identified in sub-requirements R1.1 to R1.4. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the Reference Document for this Standard. **(1) DOE-HDBK-1078-94, A Systematic Approach to Training** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf** **(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910** **http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html** **(3) ADDIE – 1975, Florida State University** **http://www.nwlink.com/~donclark/history_isd/addie.html** **(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96** **http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf**	
FirstEnergy	FE has the following additional comments:1. With regard to R1.1.1, the task list would not need to be updated if no new or modified tasks were identified.

Organization	Question 5 Comments:
	Therefore, the subrequirement could be slightly reworded as follows: "R1.1.1. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall update its list of BES company-specific reliability-related tasks performed by its System Operators at least annually when new or modified tasks for inclusion in training have been identified." Also, the Measures were written so that they align with the Requirements and their respective subrequirements. However, subrequirement R1.1.1 seems to be missing a specific measure that requires proof that the training program task list was updated annually if new or modified tasks were identified per R1.1. The SDT should consider adding a new measure M1.1.1 for R1.1.1.2. Since R3.1 is only applicable for entities that operate with IROLs, the measure for R3 should be consistently worded. We suggest changing M3.1 as follows: "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 have available for inspection training records that provide evidence that each System Operator received emergency operations training using simulation technology, as specified in R3.1."3. The reference document is a good guide for entities to use to reference industry recognized SAT processes as well as helping to determine their company-specific reliability-related operator tasks. However, this document may not be readily available to industry once the standard is enforceable since the standard does not provide a direct link to this reference material. Standards should be "all inclusive" and provide all the information needed. The SDT should consider adding a "Part F" to the standard (as allowed by NERC standard drafting guidelines) that provides a link to this reference material. This information should be transparent to industry when reviewing the standard for compliance and the SDT's work in preparing the reference document will be put to good use.
Response: The SPT SDT has considered your comment concerning Requirement R1.1.1. However, based on previous industry comments and the lack of clear industry consensus the SPT SDT does not feel that a modification is necessary. **Measure M1.1 has been modified to correct the oversight.** **With respect to your comment concerning Requirement R3.1, the requirement specifies the use of simulation technologies is required for Reliability Coordinators, Balancing Authorities and Transmission Operators that has operational authority or control over Facilities with established IROLs or has established operating guides or protection systems to mitigate IROL violations. If an entity does not have authority or control over facilities with established IROL's or has not established operating guides or protection systems to mitigate IROL violations, then this requirement does not apply to the entity.** **The SPT SDT thanks your for your comment concerning a link to the Reference Document and will work with NERC to provide access to reference material once the standard has been approved.**	

Organization	Question 5 Comments:
Standards Interface Subcommittee/Compliance Elements Drafting Resource Pool	**Standard – R1** | ***PER-005-1***
	Requirement (including sub-requirements)
	R1. Each 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.** *[Risk Factor: Medium] [Time Horizon: Long-term Planning]* **R1.1.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall create a **list of BES company-specific reliability-related tasks** performed by its System Operators. **R1.1.1.** Each Reliability Coordinator, Balancing Authority and Transmission Operator s**hall update its list** of BES company-specific reliability-related tasks performed by its System Operators **at least annually** to identify new or modified tasks for inclusion in training. **R1.2.** 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. **R1.3.** Each Reliability Coordinator, Balancing Authority and Transmission Operator **shall deliver the training** established in R1.2. **R1.4.** 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
	Proposed Measure

<table>
<tr><th>Organization</th><th>Question 5 Comments:</th></tr>
<tr><td></td><td>
M1. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall have available for inspection evidence of using a systematic approach to training to establish and implement a training program, as specified in R1.

M1.1 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have available for inspection its company-specific reliability-related task list, with the date of the last revision, as specified in R1.1.

M1.2 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have available for inspection its learning objectives and training materials, as specified in R1.2.

M1.3 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have available for inspection System Operator training records showing the names of the people trained, the title of the training delivered and the dates of delivery to show that it delivered the training, as specified in R1.3.

M1.4 Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have available for inspection evidence (such as instructor observations, trainee feedback, supervisor feedback, course evaluations, learning assessments, or internal audit results) that it performed an annual training program evaluation, as specified in R1.4.
<table>
<tr><td>Attributes of the requirement</td><td>Binary</td><td></td></tr>
<tr><td></td><td>Timing</td><td>X</td></tr>
<tr><td></td><td>Omission</td><td>X</td></tr>
<tr><td></td><td>Communication</td><td></td></tr>
<tr><td></td><td>Quality</td><td></td></tr>
<tr><td></td><td>Other</td><td></td></tr>
</table>
</td></tr>
</table>

Organization	Question 5 Comments:
	General comment - Some of the requirements listed in this requirement (R1.1.1 & R1.4) include a timing element "annually" – the CEDRP suggest that more definition be associated with the annual requirements. Annual requirements appear to accept "anytime during two consecutive calendar years" which can result in the task being performed during December of one year followed by the task being performed in January of the next year (which we suspect would not meet the SDT intent).
	SDT Proposed Lower VSL
	None
	CEDRP Proposed VSL
	SDT Proposed Moderate VSL
	The responsible entity failed to provide evidence that it updated its company-specific reliability-related tasks to identify new or modified tasks on an annual basis (R1.1.1) OR The responsible entity failed to provide evidence of evaluating its training program to identify needed changes to its training program(s).(R1.4)
	CEDRP Proposed VSL

Organization	Question 5 Comments:
	The entity did create a list of reliability tasks – but did the list was incomplete or was not company specific (R1.1) *OR* *The entity performed an update of the BES company specific reliability tasks, but the update did not occur within the timing criteria specified in the requirement (R1.1.1)* *OR* *The entity conducted an evaluation of its training program, but the evaluation did not occur within the timing criteria specified in the requirement (R1.4)* *OR* *The entity conducted an annual evaluation as required in requirement 1.4, but failed to identify needed changes (R1.4)* *OR* *The entity conducted an annual evaluation as required in requirement 1.4, identified needed changes, but failed to implement changes (R1.4)*
	SDT Proposed High VSL
	The responsible entity failed to design and develop learning objectives and training materials based on the BES company specific reliability related tasks (when developing a new or modifying an existing training program). (R1.2)
	CEDRP Proposed VSL

Organization	Question 5 Comments:	
	The entity implemented/uses a systematic approach to training, but one or more elements of the systematic approach are not included in the program (R1) *OR* **The entity failed to perform a annual update of BES company specific reliability tasks (R1.1.1)** **OR** *The responsible entity failed to design and develop learning objectives based on the BES company specific reliability related tasks (when developing a new or modifying an existing training program). (R1.2)* *OR* *The entity designed and created learning objectives but did not create associated training material (R1.2)* *OR* *The entity delivered training but training delivered did not include all learning objectives/training material as stated in requirement 1.2 (R1.3)* *OR* *The entity did not conduct an evaluation as stated in requirement 1.4 (R1.4)*	
	SDT Proposed Severe VSL	

Organization	Question 5 Comments:
	When developing a new or modifying an existing training program, the responsible entity failed to prepare a company-specific reliability-related tasks (R1.1) OR When developing a new or modifying an existing training program the responsible entity failed to deliver training based on the BES company specific reliability related tasks. (R1.3)
	CEDRP Proposed VSL
	The entity does not use a systematic approach to training (R1) *OR* *When developing a new or modifying an existing training program, the responsible entity failed to prepare a company-specific reliability-related tasks (R1.1)* *OR* *When developing a new or modifying an existing training program the responsible entity failed to deliver training based on the BES company specific reliability related tasks. (R1.3)*
	FERC Guidance for VSLs (Analysis based on CEDRP Proposed Changes)
	1. Will the VSL assignment signal entities that less compliance than has been historically achieved is condoned?
	No
	2. Is the VSL assignment a binary requirement?
	No
	Is it truly a "binary" requirement?

Organization	Question 5 Comments:
	N/A
	If yes, is the VSL assignment consistent with other binary requirement assignments?
	N/A
	Is the VSL language clear & measurable (ambiguity removed)? If no, does the requirement or measure need to be revised?
	The CEDRP suggests that the SDT review or further define "annual" as it applies to this set of requirements.
	3. Does the VSL redefine or undermine the stated requirement?
	No
	4. Is the VSL based on a single violation of the requirement (not multiple violations)?
	Yes
	Standard – R2 / ***PER-005-1***
	Requirement (including sub-requirements)
	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. *[Risk Factor: High] [Time Horizon: Long-term Planning]* **R2.1.** 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**.
	Proposed Measure

<table>
<tr><th>Organization</th><th>Question 5 Comments:</th></tr>
<tr><td></td><td>
<table>
<tr><td colspan="3">M2. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall have available for inspection evidence to show that it verified that each of its System Operators is capable of performing each assigned task identified in R1.1, as specified in R2. This evidence can be documents such as training records showing successful completion of tasks with the employee name and date; supervisor check sheets showing the employee name, date, and task completed; or the results of learning assessments.</td></tr>
<tr><td rowspan="6">Attributes of the requirement</td><td>Binary</td><td></td></tr>
<tr><td>Timing</td><td>X</td></tr>
<tr><td>Omission</td><td>X</td></tr>
<tr><td>Communication</td><td></td></tr>
<tr><td>Quality</td><td></td></tr>
<tr><td>Other</td><td></td></tr>
<tr><td colspan="3">SDT Proposed Lower VSL</td></tr>
<tr><td colspan="3">None</td></tr>
<tr><td colspan="3">CEDRP Proposed VSL</td></tr>
<tr><td colspan="3">SDT Proposed Moderate VSL</td></tr>
<tr><td colspan="3">The responsible entity verified at least 90% but less than 100% of its System Operators' capabilities to perform each assigned task from its list of BES company-specific reliability-related tasks. (R2)</td></tr>
<tr><td>CEDRP Proposed VSL</td><td colspan="2"></td></tr>
</table>
</td></tr>
</table>

Organization	Question 5 Comments:
	Entity verified capability of all operators to perform new or modified tasks, but the verification did not occur within the timing criteria specified in the requirement (R2.1)
	SDT Proposed High VSL
	The responsible entity verified at least 70% but less than 90% of its System Operators' capabilities to perform each assigned task from its list of BES company-specific reliability-related tasks. (R2) OR The responsible entity failed to verify its system operator's capabilities to perform each new or modified task within six months of making a modification to its BES company specific reliability related tasks. (R2.1)
	CEDRP Proposed VSL
	Entity verified capability of operators, but did not verify capability of all operators (R2) *OR* *Entity verified the capability of all operators, but the verification was incomplete (based on list tasks identified in 1.1(R2)* *OR* *Entity verified capability of operators* for new or modified tasks*, but did not verify capability of all operators (R2.1)*
	SDT Proposed Severe VSL
	The responsible entity verified less than 70% of its System Operators' capabilities to perform each assigned task from its list of BES company-specific reliability-related tasks. (R2)

Organization	Question 5 Comments:
	CEDRP Proposed VSL
	Entity failed to verify capability of any operators (R2) **OR** *Entity failed to verify operators capability for new or modified tasks (R2.1)*
	FERC Guidance for VSLs (Analysis based on CEDRP Proposed Changes)
	1. Will the VSL assignment signal entities that less compliance than has been historically achieved is condoned?
	No
	2. Is the VSL assignment a binary requirement?
	No
	Is it truly a "binary" requirement?
	N/A
	If yes, is the VSL assignment consistent with other binary requirement assignments?
	N/A
	Is the VSL language clear & measurable (ambiguity removed)? If no, does the requirement or measure need to be revised?
	Yes
	3. Does the VSL redefine or undermine the stated requirement?
	No
	4. Is the VSL based on a single violation of the requirement (not multiple violations)?

Organization	Question 5 Comments:

Yes

Standard – R3	*PER-005-1*

Requirement (including sub-requirements)

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 restoration using drills, exercises or other training** required to maintain qualified personnel. *[Risk Factor: Medium] [Time Horizon: Long-term Planning]*

R3.1. 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.

Proposed Measure

M3. Each Reliability Coordinator, Balancing Authority and Transmission Operator shall have available for inspection training records that provide evidence that each System Operator has obtained 32 hours of emergency operations training, as specified in R3.

M3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator shall have available for inspection training records that provide evidence that each System Operator received emergency operations training using simulation technology, as specified in R3.1.

Attributes of the requirement		
	Binary	
	Timing	X

Organization	Question 5 Comments:

	Omission	X
	Communication	
	Quality	X
	Other	

SDT Proposed Lower VSL
None
CEDRP Proposed VSL
SDT Proposed Moderate VSL
The responsible entity provided at least 32 hours of emergency operations training to at least 90% but less than 100% of their System Operators. (R3)

CEDRP Proposed VSL	
The entity provided 32 hours of training, but the training did not occur within the timing criteria specified in the requirement. (R3)	

SDT Proposed High VSL
The responsible entity provided at least 32 hours of emergency operations training to at least 70% but less than 90% of its System Operators. (R3)
CEDRP Proposed VSL

Organization	Question 5 Comments:
	The entity did deliver emergency operations training, but did not provide 32 hours of emergency operations training.(R3) *OR* *The entity provided 32 hours of training within the timing criteria as specified in the requirement, but not all operators were trained. (R3)*
	SDT Proposed Severe VSL
	The responsible entity provided 32 hours of emergency operations training to less than 70% of its System Operators (R3) OR The responsible entity did not include simulation technology replicating the operational behavior of the BES in its emergency operations training. (R3.1)
	CEDRP Proposed VSL
	The entity did not provide training(R3) *OR* **The entity that has authority/control of IROLs did not provide training (R3.1)** *OR* **The entity that has authority/control of IROLs provided training, but the training did not include simulation technology that replicates behavior of the BES during normal and emergency conditions. (R3.1)**

Organization	Question 5 Comments:
	FERC Guidance for VSLs (Analysis based on CEDRP Proposed Changes)
	5. Will the VSL assignment signal entities that less compliance than has been historically achieved is condoned?
	No
	6. Is the VSL assignment a binary requirement?
	No
	Is it truly a "binary" requirement?
	N/A
	If yes, is the VSL assignment consistent with other binary requirement assignments?
	N/A
	Is the VSL language clear & measurable (ambiguity removed)? If no, does the requirement or measure need to be revised?
	Yes
	7. Does the VSL redefine or undermine the stated requirement?
	No
	8. Is the VSL based on a single violation of the requirement (not multiple violations)?
	Yes
	Additional Compliance Elements
	Compliance Enforcement Authority

Organization	Question 5 Comments:
	For Reliability Coordinators and other functional entities that work for their Regional Entity, the ERO shall serve as the Compliance Enforcement Authority. For entities that do not work for the Regional Entity, the Regional Entity shall serve as the Compliance Enforcement Authority.
	Compliance Monitoring Period and Reset Time Frame
	N/A
	Compliance Monitoring and Enforcement Processes:
	Compliance Audits Self-Certifications Spot Checking Compliance Violation Investigations Self-Reporting Complaints
	Data Retention

Organization	Question 5 Comments:
	Each Reliability Coordinator, Balancing Authority and Transmission Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever time frame is the greatest, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation. If a Reliability Coordinator, Balancing Authority or Transmission Operator is found noncompliant, it shall keep information related to the non-compliance until found compliant. The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.
	Additional Compliance Information
	None
	CAE Resource Pool Comments
	None
Response: The SPT SDT differentiates between the terms "annual" and "12 months". The SPT SDT is specifying the term "annual" to mean a calendar year from January to December. The SPT SDT has modified the Requirement to say "calendar year". With regards to the term "12 months", the SPT SDT did not intend to define the 12 month period. The SPT SDT believes that this period should be defined by the individual entity on a case-by-case basis. The SPT SDT revised the condition for Requirement 3 from "annually" to "every 12 months" to allow for the situation of new hires late in the calendar year. **The SPT SDT has considered your comments concerning the VSLs and does not find any substantial improvements or clarity in your proposal versus the VSLs included in PER-005-1 Draft 4 and therefore does not feel that a change is warranted. In addition, the industry comments received do not substantiate the need for changes to the VSLs of the magnitude you are proposing, however minor clarifications were made based on industry comments.**	
PPL Electric Utilities	Shouldn't 5.3 read "Subrequirement R3.1 becomes effective..." rather than "Requirement R3.1 becomes effective..."
Response: The SPT SDT thanks you for your comment and will modify the effective date to reflect your suggestion.	
Orlando Utilities Commission	I greatly appreciate the effort that the drafting team has put in this standard and would like to say thank you (my hat comes off to you).

Organization	Question 5 Comments:
Response: The SPT SDT thanks you for your clarifying comment.	
Seattle City Light	The increase in time for the simulation was necessary. Vendors will be flooded with requests to model their system for this simulation requirement and this will take time.
Response: The SPT SDT thanks you for your clarifying comment.	
SERC Standards Review Group	No further comments. The drafting team is to be commended for its diligent efforts on revisions to this draft standard.
Response: The SPT SDT thanks you for your clarifying comment.	
Duke Energy	As we read this standard, we see nothing that precludes the use of contractors to perform System Operators' tasks, or training of the System Operators. We agree that the use of contractors is one of the ways to train or fulfill system operator positions.
Response: The SPT SDT thanks you for your clarifying comment.	
PowerSouth Energy Cooperative	
WECC Reliability Coordination Comment Working Group	
Bonneville Power Administration	
Santee Cooper	
SRP	
Ontario IESO	
AEP	
ISO/RTO Council - Standards Review Committee	
NorthWestern Corporation	
CenterPoint Energy	
Ameren	
NPCC	
Manitoba Hydro	
Wapa (Loveland, Co)	
ISO New England Inc.	