

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

The System Personnel Training Standard Drafting Team (SPT SDT) thanks all commenters who submitted comments on the third draft of the standard. This standard was posted for a 45-day public comment period from February 25, 2007 through April 9, 2007. The drafting team asked stakeholders to provide feedback on the standard through a special Standard Comment Form. There were more than 51 sets of comments, including comments from more than 100 different people from approximately 100 companies representing 9 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 in yellow following each question. The following conforming changes were made to the standard:

- Modified the Proposed Effective Date for Requirement 1 and Requirement 2 from 36 months after regulatory approval to 24 months after regulator approval.
- Clarified Requirement 1.4 to reflect an annual evaluation of the training program to identify any needed changes.
- Modified Requirement 3 to mandate System Restoration Training and provide clarity as to the methods of training that could be used.
- Added Requirement 3.1 to provide for 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 for certain entities.
- Clarified the Data Retention Section to reflect the required retention periods.
- Modified the Requirement 3 VSLs to provide clarity in compliance violations regarding the use of simulation/simulator training.

In this "Consideration of Comments" document stakeholder comments have been organized so that it is easier to see the responses associated with each question. All comments received on the standards 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](mailto:gerry.adamski@nerc.net). In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

---

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

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

### Index to Questions, Comments, and Responses

1. FERC Order 693 directed NERC to submit a modification to PER-002-0 that “uses the Systematic Approach to Training (SAT) methodology in its development of new training programs”. The SPT SDT revised R1 to identify the essential components of a systematic approach to training. Do you agree that this requirement now clearly describes the minimal components that must be included in a systematic approach to training? If not, please explain in the comment area. .... 8
2. The SPT SDT revised R3 to identify the training requirements and the various techniques/tools that can be utilized to conduct the training. In utilizing a systematic approach to training as described in R1, would you agree that the task list developed in R1.1 would be utilized to conduct the training required in R3? If not, please explain in the comment area. ....22
3. Do you agree with the revised Measures identified for each requirement in the revised standard? If not, please explain in the comment area. ....35
4. Do you agree with the revised Violation Severity Levels for each of requirement in the revised standard? If not, please explain in the comment area. ....42
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. ....56

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Individual or group.	Name	Organization	Registered Ballot body segment (check all industry segments in which your company is registered)																																									
1. Individual	Linda Campbell	FRCC	10 - Regional Reliability Organization/Regional Entity																																									
2. Individual	Frank Cumpton	California ISO	2 - RTOs and ISOs																																									
3. Individual	George Brady	Ohio Valley Electric Corporation	1 - Transmission Owners																																									
4. Individual	Art Buanno	FirstEnergy	1 - Transmission Owners, 3 - Load-serving Entities, 5 - Electric Generators																																									
5. Individual	Denise Koehn for Brian Tuck and other SMEs	Bonneville Power Administration	5 - Electric Generators, 6 - Electricity Brokers, Aggregators, 3 - Load-serving Entities, 1 - Transmission Owners																																									
6. Individual	Stephen Joseph	Tampa Electric Company	1 - Transmission Owners, 5 - Electric Generators, 3 - Load-serving Entities																																									
7. Group	Robert Rhodes	Operating Reliability Working Group (ORWG)	1 - Transmission Owners, 2 - RTOs and ISOs, 3 - Load-serving Entities, 5 - Electric Generators	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Brian Berkstresser</td> <td>Empire District Electric</td> <td>SPP</td> <td>1, 3, 5</td> </tr> <tr> <td>2. Mike Gammon</td> <td>Kansas City Power &amp; Light</td> <td>SPP</td> <td>1, 3, 5</td> </tr> <tr> <td>3. Allen Klassen</td> <td>Westar Energy</td> <td>SPP</td> <td>1, 3, 5</td> </tr> <tr> <td>4. Kyle McMenamin</td> <td>Southwestern Public Service</td> <td>SPP</td> <td>1, 3, 5</td> </tr> <tr> <td>5. Fred Meyer</td> <td>Empire District Electric</td> <td>SPP</td> <td>1, 3, 5</td> </tr> <tr> <td>6. Mike Murray</td> <td>City Power &amp; Light (Independence, MO)</td> <td>SPP</td> <td>1, 3, 5</td> </tr> <tr> <td>7. Robert Rhodes</td> <td>Southwest Power Pool</td> <td>SPP</td> <td>2</td> </tr> <tr> <td>8. Jason Smith</td> <td>Southwest Power Pool</td> <td>SPP</td> <td>2</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Brian Berkstresser	Empire District Electric	SPP	1, 3, 5	2. Mike Gammon	Kansas City Power & Light	SPP	1, 3, 5	3. Allen Klassen	Westar Energy	SPP	1, 3, 5	4. Kyle McMenamin	Southwestern Public Service	SPP	1, 3, 5	5. Fred Meyer	Empire District Electric	SPP	1, 3, 5	6. Mike Murray	City Power & Light (Independence, MO)	SPP	1, 3, 5	7. Robert Rhodes	Southwest Power Pool	SPP	2	8. Jason Smith	Southwest Power Pool	SPP	2				
Additional Member	Additional Organization	Region	Segment Selection																																									
1. Brian Berkstresser	Empire District Electric	SPP	1, 3, 5																																									
2. Mike Gammon	Kansas City Power & Light	SPP	1, 3, 5																																									
3. Allen Klassen	Westar Energy	SPP	1, 3, 5																																									
4. Kyle McMenamin	Southwestern Public Service	SPP	1, 3, 5																																									
5. Fred Meyer	Empire District Electric	SPP	1, 3, 5																																									
6. Mike Murray	City Power & Light (Independence, MO)	SPP	1, 3, 5																																									
7. Robert Rhodes	Southwest Power Pool	SPP	2																																									
8. Jason Smith	Southwest Power Pool	SPP	2																																									
8. Individual	Steve Rainwater	LCRA	1 - Transmission Owners																																									
9. Individual	Jim Fee	Sacramento Municipal Utility District	1 - Transmission Owners																																									
10. Individual	Rick White	Northeast Utilities	1 - Transmission Owners																																									
11. Individual	Steve Hall	CAISO	2 - RTOs and ISOs																																									
12. Group	Guy Zito	NPCC Regional Standards Committee	10 - Regional Reliability Organization/Regional Entity	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Lee Pedowicz</td> <td>NPCC</td> <td>NPCC</td> <td>10</td> </tr> <tr> <td>2. Ralph Rufrano</td> <td>New York Power Authority</td> <td>NPCC</td> <td>1</td> </tr> <tr> <td>3. David Kiguel</td> <td>Hydro One</td> <td>NPCC</td> <td>1</td> </tr> <tr> <td>4. Donald Nelson</td> <td>Massachusetts Department of Public Utilities</td> <td>NPCC</td> <td>9</td> </tr> <tr> <td>5. Ronald Hart</td> <td>Dominion Resources, Inc.</td> <td>NPCC</td> <td>3</td> </tr> <tr> <td>6. Ben Li</td> <td>Independent Electricity System Operator</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>7. Brian Evans-Mongeon</td> <td>Utility Services, LLC</td> <td>NPCC</td> <td>8</td> </tr> <tr> <td>8. Murale Gopinathan</td> <td>Northeast Utilities</td> <td>NPCC</td> <td>1</td> </tr> <tr> <td>9. Michael Ranalli</td> <td>National Grid</td> <td>NPCC</td> <td>1</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Lee Pedowicz	NPCC	NPCC	10	2. Ralph Rufrano	New York Power Authority	NPCC	1	3. David Kiguel	Hydro One	NPCC	1	4. Donald Nelson	Massachusetts Department of Public Utilities	NPCC	9	5. Ronald Hart	Dominion Resources, Inc.	NPCC	3	6. Ben Li	Independent Electricity System Operator	NPCC	2	7. Brian Evans-Mongeon	Utility Services, LLC	NPCC	8	8. Murale Gopinathan	Northeast Utilities	NPCC	1	9. Michael Ranalli	National Grid	NPCC	1
Additional Member	Additional Organization	Region	Segment Selection																																									
1. Lee Pedowicz	NPCC	NPCC	10																																									
2. Ralph Rufrano	New York Power Authority	NPCC	1																																									
3. David Kiguel	Hydro One	NPCC	1																																									
4. Donald Nelson	Massachusetts Department of Public Utilities	NPCC	9																																									
5. Ronald Hart	Dominion Resources, Inc.	NPCC	3																																									
6. Ben Li	Independent Electricity System Operator	NPCC	2																																									
7. Brian Evans-Mongeon	Utility Services, LLC	NPCC	8																																									
8. Murale Gopinathan	Northeast Utilities	NPCC	1																																									
9. Michael Ranalli	National Grid	NPCC	1																																									

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Individual or group.	Name	Organization	Registered Ballot body segment (check all industry segments in which your company is registered)																																	
				<table border="1"> <tr> <td>10. Biju Gopi</td> <td>Independent Electricity System Operator</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>11. William DeVries</td> <td>New York Independent System Operator</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>12. Kathleen Goodman</td> <td>ISO New England</td> <td>NPCC</td> <td>2</td> </tr> <tr> <td>13. Edwin Thompson</td> <td>Consolidated Edison Company of New York, Inc.</td> <td>NPCC</td> <td>1</td> </tr> <tr> <td>14. Sylvain Clermont</td> <td>Hydro-One TransEnergie Networks</td> <td>NPCC</td> <td>1</td> </tr> <tr> <td>15. Roger Champagne</td> <td>Hydro-Quebec TransEnergie</td> <td>NPCC</td> <td>1</td> </tr> <tr> <td>16. Alan Adamson</td> <td>NY State Reliability Council</td> <td>NPCC</td> <td>10</td> </tr> </table>	10. Biju Gopi	Independent Electricity System Operator	NPCC	2	11. William DeVries	New York Independent System Operator	NPCC	2	12. Kathleen Goodman	ISO New England	NPCC	2	13. Edwin Thompson	Consolidated Edison Company of New York, Inc.	NPCC	1	14. Sylvain Clermont	Hydro-One TransEnergie Networks	NPCC	1	15. Roger Champagne	Hydro-Quebec TransEnergie	NPCC	1	16. Alan Adamson	NY State Reliability Council	NPCC	10				
10. Biju Gopi	Independent Electricity System Operator	NPCC	2																																	
11. William DeVries	New York Independent System Operator	NPCC	2																																	
12. Kathleen Goodman	ISO New England	NPCC	2																																	
13. Edwin Thompson	Consolidated Edison Company of New York, Inc.	NPCC	1																																	
14. Sylvain Clermont	Hydro-One TransEnergie Networks	NPCC	1																																	
15. Roger Champagne	Hydro-Quebec TransEnergie	NPCC	1																																	
16. Alan Adamson	NY State Reliability Council	NPCC	10																																	
13. Individual	Kris Manchur	Manitoba Hydro	1 - Transmission Owners, 6 - Electricity Brokers, Aggregators , 5 - Electric Generators, 3 - Load-serving Entities																																	
14. Group	Margaret R. Stambach	SERC System Operator Subcommittee (SOS) of the SERC Operating Committee	10 - Regional Reliability Organization/Regional Entity, 4 - Transmission-dependent Utilities, 5 - Electric Generators, 3 - Load-serving Entities, 2 - RTOs and ISOs, 1 - Transmission Owners																																	
15. Individual	Christopher R. Schneider	MidAmerican Energy Company	3 - Load-serving Entities, 5 - Electric Generators, 1 - Transmission Owners																																	
16. Individual	AJ Moore	Grant County PUD	1 - Transmission Owners, 5 - Electric Generators, 9 - Federal, State, Provincial Regulatory, or other Government Entities, 3 - Load-serving Entities																																	
17. Individual	Russell A. Noble	Cowlitz County PUD No. 1	3 - Load-serving Entities																																	
18. Individual	Mike Scott	Arizona Public Service Company	1 - Transmission Owners																																	
19. Group	Daniel Herring	The Detroit Edison Company	3 - Load-serving Entities, 5 - Electric Generators, 4 - Transmission-dependent Utilities	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Mike Saksa</td> <td>DECO</td> <td>RFC</td> <td>3, 4</td> </tr> <tr> <td>2. Don Boyer</td> <td>DECO</td> <td>RFC</td> <td>5</td> </tr> <tr> <td>3. Jeff DePriest</td> <td>DECO</td> <td>RFC</td> <td>5</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Mike Saksa	DECO	RFC	3, 4	2. Don Boyer	DECO	RFC	5	3. Jeff DePriest	DECO	RFC	5																
Additional Member	Additional Organization	Region	Segment Selection																																	
1. Mike Saksa	DECO	RFC	3, 4																																	
2. Don Boyer	DECO	RFC	5																																	
3. Jeff DePriest	DECO	RFC	5																																	
20. Group	Brent Ingebrigtson	E.ON U.S.	5 - Electric Generators, 6 - Electricity Brokers, Aggregators , 3 - Load-serving Entities, 1 - Transmission Owners																																	
21. Group	Jim S. Griffith	SERC OC Standards Review Group (Project 2006-01)		<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Gene Delk</td> <td>SCE&amp;G</td> <td>SERC</td> <td>1, 3, 5</td> </tr> <tr> <td>2. Danny Dees</td> <td>MEAG</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>3. Dan Jewell</td> <td>LA Generating, LLC</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>4. John Neagle</td> <td>AECI</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>5. Joel Wise, Sue Mangum Goins, Kathy Davis, Dean Robinson, Rick Woodlee, Mike Fielden</td> <td>TVA</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>6. Barry Warner, Steve Stiles, Arthur Simpson</td> <td>EKPC</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>7. Rocky Williamson</td> <td>Georgia Power</td> <td>SERC</td> <td>1, 3, 5</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Gene Delk	SCE&G	SERC	1, 3, 5	2. Danny Dees	MEAG	SERC	1, 3, 5, 9	3. Dan Jewell	LA Generating, LLC	SERC	1, 3, 5, 9	4. John Neagle	AECI	SERC	1, 3, 5, 9	5. Joel Wise, Sue Mangum Goins, Kathy Davis, Dean Robinson, Rick Woodlee, Mike Fielden	TVA	SERC	1, 3, 5, 9	6. Barry Warner, Steve Stiles, Arthur Simpson	EKPC	SERC	1, 3, 5, 9	7. Rocky Williamson	Georgia Power	SERC	1, 3, 5
Additional Member	Additional Organization	Region	Segment Selection																																	
1. Gene Delk	SCE&G	SERC	1, 3, 5																																	
2. Danny Dees	MEAG	SERC	1, 3, 5, 9																																	
3. Dan Jewell	LA Generating, LLC	SERC	1, 3, 5, 9																																	
4. John Neagle	AECI	SERC	1, 3, 5, 9																																	
5. Joel Wise, Sue Mangum Goins, Kathy Davis, Dean Robinson, Rick Woodlee, Mike Fielden	TVA	SERC	1, 3, 5, 9																																	
6. Barry Warner, Steve Stiles, Arthur Simpson	EKPC	SERC	1, 3, 5, 9																																	
7. Rocky Williamson	Georgia Power	SERC	1, 3, 5																																	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Individual or group.	Name	Organization	Registered Ballot body segment (check all industry segments in which your company is registered)																																									
				<table border="1"> <tr> <td>8. Randy Wilkerson</td> <td>Progress Energy Carolinas</td> <td>SERC</td> <td>1, 3, 5</td> </tr> <tr> <td>9. Robert Thomasson</td> <td>BREC</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>10. Jim Case, Donnie Harrell, Wayne Mitchell, Mark Brown</td> <td>Entergy</td> <td>SERC</td> <td>1, 3</td> </tr> <tr> <td>11. Rene' Free, Kristi Boland</td> <td>SCPSA</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>12. DeWayne Roberts</td> <td>Owensboro Municipal Utilities</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>13. James Ford</td> <td>Southern Company</td> <td>SERC</td> <td>1, 3, 5</td> </tr> <tr> <td>14. Wayne Pourciau</td> <td>GA Systems Operations Corp.</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>15. John Rembold</td> <td>SIPC</td> <td>SERC</td> <td>1, 3, 5, 9</td> </tr> <tr> <td>16. Carter Edge, Margaret Stambach, John Troha</td> <td>SERC</td> <td>SERC</td> <td>NA</td> </tr> </table>	8. Randy Wilkerson	Progress Energy Carolinas	SERC	1, 3, 5	9. Robert Thomasson	BREC	SERC	1, 3, 5, 9	10. Jim Case, Donnie Harrell, Wayne Mitchell, Mark Brown	Entergy	SERC	1, 3	11. Rene' Free, Kristi Boland	SCPSA	SERC	1, 3, 5, 9	12. DeWayne Roberts	Owensboro Municipal Utilities	SERC	1, 3, 5, 9	13. James Ford	Southern Company	SERC	1, 3, 5	14. Wayne Pourciau	GA Systems Operations Corp.	SERC	1, 3, 5, 9	15. John Rembold	SIPC	SERC	1, 3, 5, 9	16. Carter Edge, Margaret Stambach, John Troha	SERC	SERC	NA				
8. Randy Wilkerson	Progress Energy Carolinas	SERC	1, 3, 5																																									
9. Robert Thomasson	BREC	SERC	1, 3, 5, 9																																									
10. Jim Case, Donnie Harrell, Wayne Mitchell, Mark Brown	Entergy	SERC	1, 3																																									
11. Rene' Free, Kristi Boland	SCPSA	SERC	1, 3, 5, 9																																									
12. DeWayne Roberts	Owensboro Municipal Utilities	SERC	1, 3, 5, 9																																									
13. James Ford	Southern Company	SERC	1, 3, 5																																									
14. Wayne Pourciau	GA Systems Operations Corp.	SERC	1, 3, 5, 9																																									
15. John Rembold	SIPC	SERC	1, 3, 5, 9																																									
16. Carter Edge, Margaret Stambach, John Troha	SERC	SERC	NA																																									
22. Individual	Alessia Dawes	Hydro One Networks - Reliability Standards Group	1 - Transmission Owners, 3 - Load-serving Entities																																									
23. Individual	Jason Shaver	American Transmission Company	1 - Transmission Owners																																									
24. Individual	Mark L Bennett	Gainesville Regional Utilities	5 - Electric Generators																																									
25. Individual	Michael Schiavone	Niagara Mohawk (DBA National Grid)	3 - Load-serving Entities																																									
26. Group	Nancy Bellows	WECC Reliability Coordination Comments Work Group (RCCWG)	2 - RTOs and ISOs	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Terry Baker</td> <td>PRPA</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>2. Paul Bleuss</td> <td>CMRC</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>3. Gregory Campbell</td> <td>RDRC</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>4. Mike Gentry</td> <td>SRP</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>5. Bob Johnson</td> <td>Xcel</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>6. Don Pape</td> <td>WECC</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>7. Linda Perez</td> <td>WECC</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>8. Dick Schwarz</td> <td>PNSC</td> <td>WECC</td> <td>2</td> </tr> <tr> <td>9. Greg Tillitson</td> <td>CMRC</td> <td>WECC</td> <td>2</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Terry Baker	PRPA	WECC	2	2. Paul Bleuss	CMRC	WECC	2	3. Gregory Campbell	RDRC	WECC	2	4. Mike Gentry	SRP	WECC	2	5. Bob Johnson	Xcel	WECC	2	6. Don Pape	WECC	WECC	2	7. Linda Perez	WECC	WECC	2	8. Dick Schwarz	PNSC	WECC	2	9. Greg Tillitson	CMRC	WECC	2
Additional Member	Additional Organization	Region	Segment Selection																																									
1. Terry Baker	PRPA	WECC	2																																									
2. Paul Bleuss	CMRC	WECC	2																																									
3. Gregory Campbell	RDRC	WECC	2																																									
4. Mike Gentry	SRP	WECC	2																																									
5. Bob Johnson	Xcel	WECC	2																																									
6. Don Pape	WECC	WECC	2																																									
7. Linda Perez	WECC	WECC	2																																									
8. Dick Schwarz	PNSC	WECC	2																																									
9. Greg Tillitson	CMRC	WECC	2																																									
27. Individual	Todd Lietz	PSEI	4 - Transmission-dependent Utilities, 3 - Load-serving Entities, 5 - Electric Generators, 1 - Transmission Owners																																									
28. Group	Ron Maki / John Kerr	Southwest Power Pool - Operations Training Working Group	2 - RTOs and ISOs, 3 - Load-serving Entities, 5 - Electric Generators, 4 - Transmission-dependent Utilities, 1 - Transmission Owners, 7 - Large Electricity End Users, 8 - Small End Users, 9 - Federal, State, Provincial Regulatory, or																																									

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Individual or group.	Name	Organization	Registered Ballot body segment (check all industry segments in which your company is registered)
			other Government Entities
29. Individual	CJ Ingersoll	CECD	3 - Load-serving Entities
30. Group	Patrick Brown	PJM Interconnection, LLC	2 - RTOs and ISOs
31. Individual	Mike Pfeister	Salt River Project	3 - Load-serving Entities, 5 - Electric Generators, 1 - Transmission Owners
32. Individual	Lauri Jones	Pacific Gas and Electric Company	1 - Transmission Owners
33. Individual	Alice Druffel	Xcel Energy	1 - Transmission Owners, 3 - Load-serving Entities, 6 - Electricity Brokers, Aggregators , 5 - Electric Generators
34. Group	Joseph DePoorter	MRO NERC Standards Review Subcommittee	3 - Load-serving Entities, 4 - Transmission-dependent Utilities, 5 - Electric Generators, 6 - Electricity Brokers, Aggregators
35. Individual	William J. Smith	Allegheny Power	1 - Transmission Owners
36. Group	Phil Riley	Public Service Commission of South Carolina	9 - Federal, State, Provincial Regulatory, or other Government Entities
37. Group	Lauri Jones	WECC Operations Training Subcommittee	1 - Transmission Owners
38. Individual	Kathleen Goodman	ISO New England Inc.	2 - RTOs and ISOs
39. Group	Will Franklin	Entergy Services, Inc. System Planning & Operations (Generation & Marketing)	6 - Electricity Brokers, Aggregators
40. Individual	Thad Ness	AEP	3 - Load-serving Entities, 1 - Transmission Owners, 5 - Electric Generators, 6 - Electricity Brokers, Aggregators
41. Individual	H. Vann Weldon	ERCOT Inc.	2 - RTOs and ISOs
42. Individual	Howard Rulf	We Energies	3 - Load-serving Entities, 5 - Electric Generators, 4 - Transmission-dependent Utilities
43. Group	Terry L. Blackwell	Santee Cooper	1 - Transmission Owners
44. Individual	Thomas Fung	BCTC	2 - RTOs and ISOs

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Individual or group.	Name	Organization	Registered Ballot body segment (check all industry segments in which your company is registered)																																	
45. Group	Richard Kafka	Pepco Holdings, Inc. - Affiliates	1 - Transmission Owners	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Valerie Hildebrand</td> <td>PEPCO</td> <td>RFC</td> <td>1</td> </tr> <tr> <td>2. Bryan Clark</td> <td>Delmarva Power &amp; Light</td> <td>RFC</td> <td>1</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Valerie Hildebrand	PEPCO	RFC	1	2. Bryan Clark	Delmarva Power & Light	RFC	1																				
Additional Member	Additional Organization	Region	Segment Selection																																	
1. Valerie Hildebrand	PEPCO	RFC	1																																	
2. Bryan Clark	Delmarva Power & Light	RFC	1																																	
46. Group	Ed Carmen	Baltimore Gas & Electric	1 - Transmission Owners																																	
47. Individual	Gregory Campoli	New York Independent System Operator	2 - RTOs and ISOs																																	
48. Group	Sam Ciccone	FirstEnergy	1 - Transmission Owners, 6 - Electricity Brokers, Aggregators, 5 - Electric Generators, 3 - Load-serving Entities	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Jim Eckels</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> <tr> <td>2. John Reed</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> <tr> <td>3. Larry Hartley</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> <tr> <td>4. Hugh Bulloci</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> <tr> <td>5. Eugene Blick</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> <tr> <td>6. Dave Folk</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> <tr> <td>7. Doug Hohlbaugh</td> <td>FirstEnergy</td> <td>RFC</td> <td>1,3,5,6</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Jim Eckels	FirstEnergy	RFC	1,3,5,6	2. John Reed	FirstEnergy	RFC	1,3,5,6	3. Larry Hartley	FirstEnergy	RFC	1,3,5,6	4. Hugh Bulloci	FirstEnergy	RFC	1,3,5,6	5. Eugene Blick	FirstEnergy	RFC	1,3,5,6	6. Dave Folk	FirstEnergy	RFC	1,3,5,6	7. Doug Hohlbaugh	FirstEnergy	RFC	1,3,5,6
Additional Member	Additional Organization	Region	Segment Selection																																	
1. Jim Eckels	FirstEnergy	RFC	1,3,5,6																																	
2. John Reed	FirstEnergy	RFC	1,3,5,6																																	
3. Larry Hartley	FirstEnergy	RFC	1,3,5,6																																	
4. Hugh Bulloci	FirstEnergy	RFC	1,3,5,6																																	
5. Eugene Blick	FirstEnergy	RFC	1,3,5,6																																	
6. Dave Folk	FirstEnergy	RFC	1,3,5,6																																	
7. Doug Hohlbaugh	FirstEnergy	RFC	1,3,5,6																																	
49. Individual	Greg Rowland	Duke Energy Corporation	6 - Electricity Brokers, Aggregators, 3 - Load-serving Entities, 5 - Electric Generators, 1 - Transmission Owners																																	
50. Individual	Ron Falsetti	Ontario IESO	2 - RTOs and ISOs																																	
51. Group	Jason Marshall	Midwest ISO Stakeholder Collaborators	2 - RTOs and ISOs	<table border="1"> <thead> <tr> <th>Additional Member</th> <th>Additional Organization</th> <th>Region</th> <th>Segment Selection</th> </tr> </thead> <tbody> <tr> <td>1. Jeanne Kurzynowski</td> <td>Consumers Energy</td> <td>RFC</td> <td>3,4,5</td> </tr> <tr> <td>2. Joe Knight</td> <td>GRE</td> <td>MRO</td> <td>1</td> </tr> </tbody> </table>	Additional Member	Additional Organization	Region	Segment Selection	1. Jeanne Kurzynowski	Consumers Energy	RFC	3,4,5	2. Joe Knight	GRE	MRO	1																				
Additional Member	Additional Organization	Region	Segment Selection																																	
1. Jeanne Kurzynowski	Consumers Energy	RFC	3,4,5																																	
2. Joe Knight	GRE	MRO	1																																	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

1. FERC Order 693 directed NERC to submit a modification to PER-002-0 that “uses the Systematic Approach to Training (SAT) methodology in its development of new training programs”. The SPT SDT revised R1 to identify the essential components of a systematic approach to training. Do you agree that this requirement now clearly describes the minimal components that must be included in a systematic approach to training? If not, please explain in the comment area.

### Summary Consideration:

The majority of the commenters agreed that the requirement describes the minimal components that must be used in a systematic approach to training. However, several of the commenters did not agree with listing some of the components of a systematic approach to training as sub-requirements stating that it was unnecessary. A few of the commenters also thought that the Standard was prescribing the use of a specific method of the systematic approach to training.

The sub-requirements in Requirement 1 are simply listing common elements that are in every systematic approach to training process. The task list should be used to identify the necessary training as stated in Requirement 1 and that a systematic approach to training is then used to develop the associated training for each task. 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 or no familiarity with the SAT process.

The following reference documents could be used in applying a systematic approach to training - these documents are 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](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 Standard does not prescribe the use of a certain methodology in applying a systematic approach to training - the above mentioned references provide different examples of a systematic approach to training.

Organization	Question 1:	Question 1 Comments:
E.ON U.S.	No	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 as defined in the DOE document is appropriate in all instances. The DOE reference document is geared for training programs that relate to nuclear power operators which require a virtually fail safe redundancy. 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 document may not be worth



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		<p>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 train 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 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.</p>
<p><b>Response:</b> In FERC Order 693 the Commission (FERC) directed NERC to submit a modification to PER-002-0 that "uses the Systematic Approach to Training (SAT) methodology". Requirement 1 requires that a systematic approach must be used to create new or revise existing training programs for reliability-related tasks. There are multiple variations of a systematic approach to training. 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.</p> <p>(1) DOE-HDBK-1078-94, A Systematic Approach to Training  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p>(3) ADDIE – 1975, Florida State University  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training,</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). The majority of training in this standard could meet CEH.
MRO NERC Standards Review Subcommittee	No	<p>A systematic approach to training is a clearly developed process used in many programs. Some entities may interpret this to refer to the DOE SAT methodology, which is incorrect. The MRO suggests wording to clarify R1: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall use asystematic approach to training as outlined in the sub-requirements below, to establish?"</p> <p>R1.1.1 states "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall update its list of BES company-specific reliability-related tasks" Replace 'update' with 'review and update as necessary'</p>
<p><b>Response:</b> The present wording for Requirement 1 is "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall use a systematic approach to training to establish a new or modify an existing training program(s) for the BES company-specific reliability-related tasks performed by its System Operators and shall implement the program(s)". There are multiple variations of a systematic approach to training. The following are reference documents that can be used in applying a systematic approach to training. These documents are also listed in the Reference Document for this Standard.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p> <p>The SPT SDT believes that in order to update a task list it first must be reviewed. Therefore the SPT SDT thanks you for your response but does not feel that a change in the wording is necessary.</p>		
tampa electric company	No	The previous version of the standard did include, (analysis, design, development, implementation and evaluation) which are components of what at SAT should include. These have been removed and now it seems that "systematic approach" is an ambiguous term, unless creating the task list is what the SDT considers a systematic approach to training.
<p><b>Response:</b> 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. The task list is used to identify the necessary training as stated in R1. A systematic approach to training is used to develop the associated training for each task. The following are reference documents that can be used in applying a systematic approach to training. These documents are also listed in the Reference Document for this Standard.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC</b></p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
<p><b>6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>		
ERCOT Inc.	No	R1 without the sub-requirements is sufficient to meet the FERC directive. The sub-requirements of R1 are not only unnecessary; as written they are detrimental.
<p><b>Response:</b> 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 or no familiarity with the SAT process.</p>		
Ontario IESO	No	We would ask the SDT to clarify that the requirement to use a "systematic approach to training" does not dictate a specific type of training program, as long as requirements in R1.1 to R1.4 are fully met. As we have commented in the past, we believe standards should dictate what and not how. If this clarification is made, the IESO would support the standard. However, if the "systematic approach to training" indeed dictates the use of a specific type of training program, then we would request the SDT to demonstrate how it can be determined that a training program developed using other methods is not acceptable if the subrequirements R1.1 to R1.4 are fully met.
<p><b>Response:</b> 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 sub-requirements simply list common elements that are in every systematic approach to training process. The task list is used to identify the necessary training as stated in R1. A systematic approach to training is used to develop the associated training for each task. 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.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>		
SERC OC Standards Review Group (Project 2006-01)	No	We agree that R1 does identify the essential components of a Systematic Approach to Training (SAT). However, we found the statement that SAT must be used "to establish a new or modify an existing training program(s)" to be ambiguous. Clearly, if a company creates a new course or undertakes a modification to an existing course, then SAT must be followed. But does this statement require that ALL existing training programs (whether modifications are planned or not) be adjusted

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		<p>to be consistent with SAT? R1 needs to be reworded to eliminate this ambiguity. Furthermore, the development of reliability-related system operator tasks is a crucial starting point for the SAT process. R1 requires that these tasks be company-specific and related to the Bulk Electric System (BES). However, BES still has not been adequately defined to a level that would provide direction to companies for developing their own reliability-related tasks. A major point of confusion is the discrepancy between BES (NERC terminology) and the FERC terminology (Bulk Power System? BPS) as described in the Energy Policy Act of 2005. BPS has a much broader and inclusive definition, which makes it extremely difficult for an entity to determine if its training program meets the R1 requirement. We suggest the inclusion of an Appendix in this standard that formally defines the SAT/ADDIE process. While R1.1? R1.4 does allude to the basic elements of the process; this may not be obvious to those without a background in training. The Appendix would clearly describe each step required by the systematic approach to training, and bring everyone who must comply with this standard to a basic level of understanding.</p>
<p><b>Response:</b> The intent of the Standard is to require all entities to use a systematic approach to training for either new or existing training programs. The effective date of this standard allows time to modify existing or implement new training programs. Requirement 1 has been modified to provide clarity and now reads:</p> <p style="padding-left: 40px;">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.</p> <p>The defining of the term Bulk Electric System (BES) is outside the scope of this Drafting Team. The definition is found in the NERC Glossary and is defined by each individual Region. The requirement in this standard references BES, not BPS, so there should be no confusion.</p> <p>There are multiple variations of a systematic approach to training. 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.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>		
California ISO	No	<p>Stating that the FERC mandated SAT methodology must be used is sufficient. The SAT methodology already includes the components listed in the sub-requirements. We suggest eliminating all the sub-requirements to R1. With R1 modified to eliminate the sub-requirements, we recommend re-writing R2 as shown below.</p> <p style="padding-left: 40px;">R2. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall verify each of its System Operator's capabilities to perform reliability-related tasks at least one time. [Risk Factor: High] [Time Horizon: Long-term Planning]</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		<p>We suggest that R2.1 be modified to allow extra time for employees who were absent from work and were unable to be trained within the six month time frame.</p> <p>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. The six-month time frame is applicable only to those employees who were not absent from work and who were able to attend the formal training sessions. An additional six months for evaluating System Operator's capabilities shall be granted for employees who were unable to attend formal training due to absence from work.</p>
<p><b>Response:</b> 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 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.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p> <p>The Standard Drafting Team recognizes that hardship circumstances will arise. The SDT feels that these instances will be addressed on a case- by-case basis by the Compliance Monitoring Enforcement Program (CMEP). It is not feasible that a Standard could address every possible situation.</p>		
FRCC	No	<p>Although FERC required the SAT methodology in Order 693, it was not defined. The previous version of the standard did include, (analysis, design, development, implementation and evaluation) components of what at SAT should include. These have been removed and now it seems that "systematic approach" is an ambiguous term. The requirement states that the RC, BA and TOP shall "use" a systematic approach. Are the requirements 1.1, 1.1.1, 1.2, 1.3 and 1.4 the components of such an approach? If so, why not delete the term and just have the requirements which cover each of the components?</p>
<p><b>Response:</b> 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. 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. 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 or no familiarity with the SAT process. Keeping the reference to the SAT process in R1 provides greater clarity to the intent of the requirement, so it was retained.</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
<p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>		
NPCC Regional Standards Committee	No	NPCC participating members wish to thank the drafting team for accepting our comment related to the SAT from the last posting--"We continue to disagree that using a Systematic Approach to Training to develop a training program is a reliability requirement. Reliability standards need to address the "what", not the how, despite the FERC Order." The lower case acronym that now appears in the standard seems to have alleviated some of the concern with some of the NPCC RSC members. However we request the drafting team further clarify the standard to ensure that the requirement to use a "systematic approach to training" does not dictate a specific type of training program, such as the 5 principles in the SAT, as long as requirements in R1.1 to R1.4 are fully met. In fact, R1 should simply be stipulated as: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall establish a new or modify an existing training program(s) for the BES company-specific reliability-related tasks performed by its System Operators."
<p><b>Response:</b> 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. 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. Keeping the reference to the SAT process in R1 provides greater clarity to the intent of the requirement, so it was retained.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>		
PJM Interconnection, LLC	No	R1 without the sub-requirements is sufficient to meet the FERC directive. The sub-requirements go outside the scope of the standard and merely describe some elements of the SAT methodology itself. The SAT methodology is a well established, widely used training standard in the industry which does not need to be described in detail in the NERC Standards.

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
<p><b>Response:</b> 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. The task list is used to identify the necessary training as stated in R1. A systematic approach to training is used to develop the associated training for each task. While the SAT process may be used by many entities, the comments received during the development of this standard indicate that there are many entities that have little or no familiarity with the SAT process. The drafting team added a list of references that provide guidance in applying the SAT process to the standard.</p>		
FirstEnergy	No	<p>Although we agree that the minimum training needs of personnel are identified, we have the following concerns/suggestions:</p> <p>1. The standard does not require minimum training needs for the trainer. Adding a subrequirement to assure the trainer is adequately trained will support the BES reliability through the assurance that training personnel will have the knowledge and skills they need and will add to the quality of the training delivered. Even though this is considered to be outside the scope of the SAR, adding a requirement to "train the trainer" will demonstrate the importance of flexibility in NERC's standard development process that does not always exist today. While we understand that SDT's should not be given complete freedom to significantly diverge from the SAR scope, there needs to be some flexibility for teams to adjust the scope based on industry feedback. In the end, all new or revised standard requirements are voted on regardless of the exact SAR scope. We believe the SDT teams should not be rigidly bound by the SAR scope, but rather have enough flexibility to adjust based on subsequent direction from FERC on other standards projects or valid input, agreed upon by the SDT, that is received from industry during the development of the standard although not explicitly stated in the original SAR scope. Our suggested change to "train the trainer" has precedence from direction received from FERC based on its Order 706 regarding the CIP standards. Please refer to paragraph 435 of Order 706.2. We feel that R1.4 may need to be expanded. Per R1.4, an evaluation of the training program is required; however, it does not specify what to do with the results of such evaluations. We suggest revising R1.4 and adding the following subrequirements: R1.4. The Reliability Coordinator, Balancing Authority, and Transmission Operator shall conduct an evaluation of the training program established in R1. R1.4.1. The Reliability Coordinator, Balancing Authority, and Transmission Operator shall annually review the evaluations of their delivered training to identify needed changes to their training program. R1.4.2. The Reliability Coordinator, Balancing Authority, and Transmission Operator shall implement the training program changes identified in R1.4.1 within 12 months of that review.</p>
<p><b>Response:</b> The majority of commenter's from previous postings did not agree that a requirement should be included in the standard that necessitates entities to verify that personnel developing or delivering training to System Operators are competent. Since this requirement was outside the scope of the SAR, the SPT SDT removed this requirement from the standard.</p>		
<p>With regards to your comment that the SDT should not "be rigidly bound by the SAR scope" is beyond the purview of the SDT process. This should be brought up to the Standards Committee for future consideration and possible modification to the standards development process.</p>		
<p>The intent of R1.4 was that when the need for a change to the training program was identified, the change would be made. The SDT added clarifying language to R1.4 which now reads "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall conduct an annual evaluation of the training program established in R1 to identify any needed changes to the training program and shall implement the changes identified".</p>		
PSEI	No	<p>Since the new wording includes "BES company-specific reliability-related tasks" we have now bought into regional differences as each region is responsible to decide their definition of BES. They have done this in a FERC filing (Docket No. RM06-16-000). What if a company does not have any tasks that are BES related as defined by their region? Will an auditor accept that it does not apply and therefore the entity does not need a training program? Requiring an administrative burdensome process for all training does not help smaller companies. They lack staff. Perhaps the training standard should only apply to those companies that are CEH providers. System Operators are already required to obtain and maintain certification. Let companies decide the skill level of their operators without an administrative nightmare.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
<p><b>Response:</b> As 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.</p> <p>The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). The majority of training in this standard could meet CEH.</p>		
Duke Energy Corporation	No	<p>We have significant concerns with the current draft of PER-005-1. While the concept of a systematic approach to training? Is valid, the implementation of the concept as envisioned in the current draft cannot be accomplished with the precision and clarity necessary for a mandatory reliability standard. A process-driven approach like the systematic approach to training is better handled outside of reliability standards. We need specific requirements that are clear and consistently enforceable in the standards. The critical first step of the ?systematic approach to training as stated in Requirement R1.1, is to create a list of Bulk Electric System (BES) company-specific reliability-related tasks performed by its System Operators. The previous draft of PER-005-1 listed literally hundreds of tasks. The development of a company-specific list is a subjective endeavor. It is highly likely that auditors would consistently disagree with the composition of any responsibility entity's list, and hence find them in violation of a medium risk factor requirement. Ambiguous 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. Operators should be required to pass the appropriate NERC certification examination, and maintain that certification with NERC-approved continuing education training hours. For example the current requirement is 200 hours over a three-year period for Reliability Coordinators. The initial letter from Mark Fidrych stating the company requirement for the five-days of emergency operations training, established in PER-002 R4 and further defined as 32 hours currently identified in R3 of PER-005-1 should be put into the standard and counted toward the system operator certification training requirements as a third category of hours along with Simulation and Standards to maintain certification. Why have a completely separate set of training requirements not part of the continuing education process? It makes for separate record keeping and confusion. With the consolidation of the PER-002, 003 and 004 into PER-005, it makes further sense to consolidate the emergency hour's requirement into the credential maintenance program.</p>
<p><b>Response:</b> The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>As 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.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). The majority of training in this standard could meet CEH.</p>		
LCRA	No	<p>The requirement requires transmission operators to create a list of company specific reliability related tasks. What are they exactly? That's a very subjective term. Who decides? If the transmission operator training staff decides what will be critical,</p>



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		and thus what they will be audited on, then it behooves them to keep that list as short as possible. The fewer tasks on the list, the less one is responsible for. I do agree that the systematic approach is the best way to go, but not when you are attempting to tie it to a task list that is completely subjective. That makes no sense whatsoever.
<p><b>Response:</b> As 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 has been revised and now details some topics that could be considered and included in a task list.</p>		
BCTC	No	The concept for Systematic Approach to Training is understood but it is not clear what the BES company-specific reliability-related tasks performed by System Operators would be. This would be too open to interpretation by an audit team.
<p><b>Response:</b> As 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 depending 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 has been revised and now details some topics that could be considered and included in a task list.</p> <p>The defining of the term BES is outside the scope of this Drafting Team. The definition is found in the NERC Glossary and is defined by each individual Region.</p>		
SERC System Operator Subcommittee (SOS) of the SERC Operating Committee	No	We agree that R1 does identify the essential components of a Systematic Approach to Training (SAT). However, we found the statement that SAT must be used "to establish a new or modify an existing training program(s)" to be ambiguous. Clearly, if a company creates a new course or undertakes a modification to an existing course, then SAT must be followed. But does this statement require that ALL existing training programs (whether modifications are planned or not) be adjusted to be consistent with SAT? R1 needs to be reworded to eliminate this ambiguity. Furthermore, the development of reliability-related system operator tasks is a crucial starting point for the SAT process. R1 requires that these tasks be company-specific and related to the Bulk Electric System (BES). However, BES still has not been adequately defined to a level that would provide direction to companies for developing their own reliability-related tasks.
<p><b>Response:</b> In FERC Order 693 the Commission (FERC) directed NERC to submit a modification to PER-002-0 that "uses the Systematic Approach to Training (SAT) methodology". The intent of the Standard is to require all entities to utilize a systematic approach to training for either new or existing training programs. The effective date of this standard allows time to modify existing or implement new training programs. Requirement 1 has been modified to provide clarity and now reads:</p> <p style="text-align: center;">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.</p> <p>The defining of the term Bulk Electric System (BES) is outside the scope of this Drafting Team. The definition is found in the NERC Glossary and is defined by each individual Region.</p>		
Santee Cooper	No	R1 states "? Shall use a systematic approach to training to establish a new or modify an existing training program(s)". Does this imply that all previous training is to be modified to fit SAT? A training module should only need to be modified to fit the SAT process if it is used again after this standard is approved. All past training that is not used after this standard is approved should not have to be modified. See below for recommended wording. We agree that R1 describes the minimal components that should be included in a training program. Recommend including as an attachment to the standard the System Operator Training Reference Document. We recommend removing the words "BES company-specific" to avoid confusion. R1 would read simpler as "Each RC, BA, and TOP shall use a systematic approach to training to establish a new

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		training program for reliability-related tasks performed by its System Operators. Existing programs that do not follow the SAT model should ensure future training conforms to the SAT process."
<p><b>Response:</b> The SDT agrees that this Standard only applies to active training related to the task lists as defined by R1.1. The intent of the Standard is to require all entities to use a systematic approach to training for developing new or modifying existing training programs. The effective date of this standard allows time to modify existing or implement new training programs. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>		
Ohio Valley Electric Corporation	No	R1.2 & R1.3 could be interpreted to exclude the use of contractors for designing and developing learning objectives and training materials. R1.2 & R1.3 should be revised so as not to imply that outside contractors could not be used. The evaluation of training stated in R1.4 is a good statement and good training practice. However, there has been no assessment or evaluation of the effectiveness existing training programs required by PER-002, R3 that has been in affect for over three years. Why create a standard to mandate a new training program when no assessment has been made of the effectiveness of existing training programs? The work to create a new training standard is not a judicious use of resources in order to strengthen the reliability of the bulk electric system. FERC, with its Order, is trying to direct the outcome of the stakeholder process without participating in the same process that the stakeholders must use. The standards development process loses its integrity if the outcome is directed or predetermined and stakeholder input is not considered.
<p><b>Response:</b> - The SPT SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity that hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>		
Gainesville Regional Utilities	No	FERC and NERC describing in detail How training is accomplished and documented seem to be taking things to an extreme that is not necessary.
<p><b>Response:</b> The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>		
Hydro One Networks - Reliability Standards Group	No	(do not wish to specify Yes or NO for this question)R1.4 needs a time frame in which each entity must conduct an evaluation of their training program.
<p><b>Response:</b> The SPT SDT acknowledges your response and has added a time frame for evaluation of a training program. R1.4 now reads "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall conduct an annual evaluation of the training program established in R1 to identify any needed changes to the training program and shall implement the changes identified. "</p>		
CAISO	No	This is a general comment regarding PER-005. The following statement from R2 has a typo error. I believe the word "or" should have been "of". Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall verify each or its System Operator's capabilities to perform each assigned task identified in R1.1 at least one time.
<p><b>Response:</b> The SPT SDT acknowledges your response and thanks you for your clarifying comment. The typographical error has been corrected.</p>		
Pepco Holdings, Inc. - Affiliates	No	Change the wording in R1 to emphasize the training program before establishing the method of development. For example --Each RC, BA and TOP shall establish a new or modify an existing training program using a systematic approach etc. The change in emphasis would make it easier to state VSLs as shown in 4 below.
<p><b>Response:</b> The SDT acknowledges your response and thanks you for your comment but feels that the present wording provides for sufficient clarity.</p>		
Niagara Mohawk (DBA National Grid)	Yes	The lower case acronym that now appears in the standard seems to have alleviated some of our concerns. However we request the drafting team further clarify the standard to ensure that the requirement to use a "systematic approach to training" does not dictate a specific type of training program, such as the 5 principles in the SAT, as long as requirements in R1.1 to R1.4 are fully met. In fact, R1 should simply be stipulated as: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall establish a new or modify an existing training program(s) for the BES company-specific

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		reliability-related tasks performed by its System Operators" since R1.1 thru 1.4 describe the training development "process".
<p><b>Response:</b> 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. 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. Keeping the reference to the SAT process in R1 provides greater clarity to the intent of the requirement, so it was retained.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>		
Entergy Services, Inc. System Planning & Operations (Generation & Marketing)	Yes	We agree that the description for the SAT methodology clearly describes the minimal components required. We do have concern with the use of the term "company specific". Does this infer that each company has a composite listing or can each function (business unit) within a company maintain their own listing?
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. The Standard is not intended to specify how an entity develops the company specific task lists. Whatever is logical and fits the organizational structure that is justifiable should be sufficient. 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 has been revised and now details some topics that could be considered and included in a task list.</p>		
Northeast Utilities	Yes	R1 describes the SAT process (Analysis, Design, Develop, Implement, and Evaluate) well. What guidance determines "BES company-specific reliability-related tasks"?
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. Only specific tasks that are considered critical to reliability should be considered when developing a task list. The Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p>		
Grant County PUD	Yes	The revised Requirement R1 does identify a minimum subset of the components of the Systematic Approach to Training with out actually naming them. Analysis, Design, Development, Implementation and Evaluation. These elements are very well understood in other industries such as nuclear power and have been in use for many years. It's not clear why you would choose not to simply use the existing model and not try to reinvent the wheel? It's also notable that the previous version had reference to a "Generic Task List" which could prove very useful and informative for those who are struggling with the analysis phase of SAT. This reference to the GTL was struck out in the new redline of the standard. This is unfortunate because entities with little expertise in SAT will have to start from scratch with their job/task analysis instead of having a point of departure for design and development. This is not to encourage wholesale use of a generic task list but

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
		perhaps the availability of a generic task list and guidance to customize it for use on an entity specific basis would provide a smoother transition to the Systematic Approach.
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. Only specific tasks that are considered critical to reliability should be considered when developing a task list. The Reference Document associated with the Standard has been revised and now details some topics that could be considered and included in a task list.</p>		
Manitoba Hydro	Yes	Manitoba Hydro agrees that a Systematic Approach to training be used in developing new training programs.
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.</p>		
American Transmission Company	Yes	In general we agree with the approach described.
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.</p>		
firstenergy	Yes	
Bonneville Power Administration	Yes	
Operating Reliability Working Group (ORWG)	Yes	
Sacramento Municipal Utility District	Yes	
MidAmerican Energy Company	Yes	
Cowlitz County PUD No. 1	Yes	
Arizona Public Service Company	Yes	
The Detroit Edison Company	Yes	
WECC Reliability Coordination Comments Work Group (RCCWG)	Yes	
Southwest Power Pool - Operations Training Working Group	Yes	
CECD	Yes	
Salt River Project	Yes	
Pacific Gas and Electric Company	Yes	
Xcel Energy	Yes	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 1:	Question 1 Comments:
Allegheny Power	Yes	
Public Service Commission of South Carolina	Yes	
WECC Operations Training Subcommittee	Yes	
ISO New England Inc.	Yes	
AEP	Yes	
We Energies	Yes	
Baltimore Gas & Electric	Yes	
New York Independent System Operator	Yes	
Midwest ISO Stakeholder Collaborators	Yes	In general, we agree that R1 describes the components that must be included in a systematic approach to training. However, we do believe the requirement could be improved further by adding the following clause after the word training in the second line of R1.as outlined below
<b>Response:</b> There was insufficient information in your comment for the SPT SDT to address.		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

2. The SPT SDT revised R3 to identify the training requirements and the various techniques/tools that can be utilized to conduct the training. In utilizing a systematic approach to training as described in R1, would you agree that the task list developed in R1.1 would be utilized to conduct the training required in R3? If not, please explain in the comment area.

### Summary Consideration:

The majority of the responders agreed that the task list developed in Requirement 1 could be used in the development of the training identified in Requirement 3. In those instances of disagreement, the majority questioned the use of simulators and the definition of what 12 month period was to be used. Also, there appeared to be confusion concerning the task list developed in Requirement 1 being all inclusive for the emergency operations training.

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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:

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.

R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROs or have 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.

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. This revision was incorporated into Draft 4 of the Standard.

Concerning the confusion associated with the task list developed in Requirement 1 being all inclusive for the emergency operations training, the SPT SDT did not intend to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Several commenters referenced a list of emergency operations training topics issued by the Operating Committee Chair (Mr. Fidrych) in March, 2004 – the SPT SDT added this list of emergency operations training topics that could be included in the training to the revised Reference Document associated with this Standard.

Organization	Question 2:	Question 2 Comments:
SERC OC Standards Review Group (Project 2006-01)	No	As stated in the response to Question 1, we are uncomfortable with the R1 requirement to create reliability-related tasks for the operation of the Bulk Electric System. The information needed to effectively develop the subset of tasks related to emergency operations is insufficient. Clarify what the twelve months - is it an annual basis or a rolling 12 month = a calendar year vs. a credential year. In addition, we feel that the phrase in R3: At least every 12 months...? Is open to different interpretations. Must each system operator be provided with 32 hours of emergency training within every calendar year or

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		<p>within every credential year?R3 further implies by the phrase applicable to its organization that only system-specific training can be used for the 32-hour annual emergency training requirement. This wording needs to be changed to make it clear that, while system-specific training is needed, generic training on emergency operations is also allowed in the 32 hours. We also suggest that, in R3, the phrase and hands on training using simulators be changed to and/or hands on training using simulators to clarify that use of a simulator is not required for all training, drills or exercises (for example, table-top drills are allowed as well).</p>
<p><b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p> <p>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. This revision was incorporated into Draft 3 of the Standard.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 40px;">R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.”</p>		
Ohio Valley Electric Corporation	No	<p>Emergency operations training should not be limited to the task list developed in R1. Many emergency operations topics are related to concepts and not tasks. R1 can be used to identify some emergency operations training topics but will not cover all the topics that could qualify as emergency operations training. There is insistence by FERC that the use of simulators be explicitly required and that the requirements be applicable to local control center personnel. FERC offers no justification as to why this is necessary but it is also not immune from its requirement to engage in reasoned decision-making and provide justification. The required use of simulators creates undue hardship for many smaller entities, especially those with limited staffing. The purchase, operation, and model maintenance of a simulator is not an inexpensive proposition. Additional staffing for this purpose will be required. Likewise, there will be a considerable expenditure for training resources, either internal or external. FERC however did state that smaller entities that have no impact on the BES should not be required to have simulators, but no definition of small entity has been offered. Suggest removing the "hands on training using simulators" wording from R3.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 existing wording found in PER-002 R4.</p>
<p><b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		<p>the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Gainesville Regional Utilities	No	Not necessary
<p><b>Response:</b> The 32 hours of emergency operations training is presently identified and required in NERC approved standards. The training of System Operators was a major contributor to the 2003 blackout.</p>		
tampa electric company	No	I feel should be reworded to state "using training, drills, exercises, and hands on training using simulations" instead of simulators as many smaller and larger companies do not have the staff or resources to support simulators. Also, R3 does not address a new hire that starts mid year or a trainee who is released late in the year. Do these individuals have the same 32hr requirement even though they do not have a year to complete it?
<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>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. This revision was incorporated into Draft 4 of the Standard.</p>		
Santee Cooper	No	R3 reads " using training, drills, exercises, and hands on training using simulators". Santee Cooper agrees with R3 if the



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		<p>"and" is changed to "or". As it is currently written it could be misconstrued to mean that simulators have to be used for all 32 hours. In addition, Santee Cooper is concerned that a company's interpretation of what is considered emergency operations training could be questioned by an auditor without some further clarification of topics that can be included in emergency operations training (Fidrych letter). We also ask the SDT to clarify "at least every 12 months". Is this on an annual basis as currently defined in PER002? It could be rewritten to read "On a per year basis each RC, BA, and TOP shall provide?"</p>
<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>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. This revision was incorporated into Draft 4 of the Standard.</p> <p>The drafting team has included the topics from the Fidrych letter to the Reference Document for this standard.</p>		
Midwest ISO Stakeholder Collaborators	No	<p>We agree that the company's list of reliability-related tasks from R1.1 will include tasks related to emergency operations which will certainly facilitate identifying the training required for R3. As R3 is currently written, however, R3 creates the potential for small registered entities to expend significantly more funds for emergency operations training than they will realize in actual value. This is directly due to the requirement to include hands on training using simulators. In Order 693, FERC even recognized that smaller registered entities that have little impact on the BES should not be required to have a simulator or simulator training. FERC stated that the requirement to have a simulator or simulator training should consider the entities role and size. If the word simulator was changed to simulations or the word or was used instead of and in the list, the requirement would satisfy the consideration FERC gave these small entities in Order 693.</p>
<p><b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p> <p>All of the forms of training listed in Requirement 3 do not have to be used for every class. However, dependent on the entities system characteristics, the use of simulators must be included within the 32 hours as defined below.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
3.1 now read:		<p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or has established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
PJM Interconnection, LLC	No	<p>No list is required, as we recommended the elimination of the sub-requirements in R1. In addition, the type of training mandated is too definitive. The standard should read, “using a combination of training, drills, exercises, or training simulators.” This allows the registered entity to structure a program based on their specific needs and resources.</p>
		<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 “Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Xcel Energy	No	<p>We recommend that the wording of R3 be slightly modified to clarify that entities may use any of the training methods listed, and not necessarily required to use ALL of them. Here is how we suggest it should read: 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 any of the following methods: training, drills, exercises, and hands on training using simulators.</p>
		<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee – to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		<p>established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Duke Energy Corporation	No	<p>See response to question #1 above. Also on R3, the phrase "using training, drills, exercises and hands-on training using simulators" should be changed to "using training, drills, table-top exercises or hands-on training using simulators". This change recognizes that training may be accomplished using one or more of these methods, and that hands-on training using simulators is not required for all entities (FERC Order No. 693, paragraphs 1390 - 1393).</p>
<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee -- to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>		
California ISO	No	<p>We've recommended that the sub-requirements for R1 be eliminated. We believe R3 should be modified to allow any combination of "training, drills, exercises, and hands on training using simulators" instead of mandating that all must be used.</p>
<p><b>Response:</b> The SPT SDT has modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 "Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>		
BCTC	No	<p>The Standard now states that at least 32 hours annually of emergency operations training applicable to its organization. The way this is written suggests that emergency operations training is now limited to only company specific issues and that would disqualify much of the Emergency Operations training done with other organizations or contractors / vendors. If this interpretation is correct this would be very limiting and it would be difficult to get 32 hours accomplished. We suggest the original wording in PER-004 is sufficient and just change 5 days to 32 hours. It is not clear when a 12 month interval starts and stops for each System Operator as written in the Standard. Is this meant to allow each System Operator to have a different 12 month window so the measure could be tied to a Certification yearly window?</p>
<p><b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		<p>the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p> <p>The SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR. In addition, Requirement 3 has been modified and Requirement 3.1 has been added to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 80px;">R3.1 "Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). As envisioned, much of the training developed and delivered in accordance with this standard could also be used to meet CEH.</p> <p>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. This revision was incorporated into Draft 3 of the Standard.</p>
PSEI	No	<p>The new wording says "applicable to its organization". This just eliminated a lot of vendor training as it is generic. Small companies that do not have training staff rely on vendors to meet the current requirement. They also do not have the time and staff to specifically link a vendor's course to specific tasks. Emergency training can be and is valuable without burdening companies by requiring all to be company specific.</p>
		<p><b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p> <p>The SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR. In addition, Requirement 3 has been modified and Requirement 3.1 has been added to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		R3.1 "Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have 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.
SERC System Operator Subcommittee (SOS) of the SERC Operating Committee	No	As stated in the response to Question 1, we are uncomfortable with the R1 requirement to create reliability-related tasks for the operation of the Bulk Electric System. The information needed to effectively develop the subset of tasks related to emergency operations is insufficient.
		<b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. The SPT SDT believes that the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.
FRCC	No	The statement "using training, drills, exercises, and hands on training using simulators" is vague. What is meant by training since the items that follow it are forms of training? Does the responsible entity have to prove that all of these forms of training were used for every class, or just over the entire 32 hours. It appears that the only particular term identified for emergency operations training that is a "must" is system restoration. Is that correct? And if so, do all of the forms of training identified apply specifically to system restoration? This requirement needs to be clarified.
		<b>Response:</b> The SPT SDT believes that what is meant by training is clarified by the items that were listed in the Requirement – note that the SPT SDT modified the phrase for clarity.  All of the forms of training listed in Requirement 3 do not have to be used for every class. However, dependent on the entity's system characteristics, the use of simulators must be included within the 32 hours.  The SPT SDT is not targeting just system restoration in Requirement 3. There are other topics that could be used but the training must include system restoration. System restoration training could utilize one or more of the methods identified in Requirement 3. Additionally, emergency operation training topics, that could be included, are listed in the revised Reference Document associated with this Standard.
Hydro One Networks - Reliability Standards Group	No	Do not assume each company's list of tasks will include emergency operations and system restoration. Perhaps include these items in brackets in R1.1, and/or in requirement 3 refer to the list tasks in R1. Join R1 and R3 in some way other than assuming an entity/company will.
		<b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. However, those tasks associated with emergency operations identified in Requirement 1 should be included. The SPT SDT believes that these tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.
LCRA	No	The emergency training requirement should be removed from this standard and moved to certification/CE program. Right now CE requirements are tracked on a 36 month rolling calendar while the annual emergency training requirement is tracked on a 12 month annual calendar. You are confusing people and making it much more difficult to keep track of it all.
		<b>Response:</b> The majority of the commenters in Draft 2 of this Standard supported including this requirement in the System Personnel Training standard.  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. This revision was incorporated into Draft 4 of the Standard.

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
WECC Operations Training Subcommittee	No	Training applicable to the organization should be removed, due to lack of clarity which may lead to multiple interpretations and multiple definitions of "applicable"
<p><b>Response:</b> The SPT SDT disagrees with your comment. The SPT SDT believes that by using the term applicable allows the individual entity to tailor the training to their specific organizational needs.</p>		
CAISO	No	No comment
The Detroit Edison Company	Yes	We believe the use of "simulators" is too restrictive and "simulations" should be used instead. Simulations can occur without the use of simulators.
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 "Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions."</p>		
Entergy Services, Inc. System Planning & Operations (Generation & Marketing)	Yes	We agree that the list of reliability related tasks previously identified by the entity can be used to identify the training to meet R3. We have a concern with the description of the training methods, especially that it includes the apparent requirement to use hands on training simulators. The way this is written it indicates that the use of simulators is required. If that is the intent then we disagree with the requirement. If it is not the intent then strike the use of example entirely or clarify that the training "may include methods such as." Additionally, must all of the 32 hours be comprised of drills, exercises and hands on training using simulators?
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		established IROLs or have 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.
Pepco Holdings, Inc. - Affiliates	Yes	Requirement 3 should specifically state that the tasks related to emergency operations should be taken from the list developed for Requirement 1 In addition R3 should be revised to say "using any of the following: training classes, drills, exercises or hands on training using simulations" rather than training, drills, exercises and hands on training using simulators. This allows for training classes which can still be a valuable type of emergency ops training and other types of simulation experiences as well.
<p><b>Response:</b> It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. However, those tasks associated with emergency operations identified in Requirement 1 should be included The SPT SDT believes that the tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>		
ERCOT Inc.	Yes	The 32 hour requirement should be removed. The 32 hour requirement was an interim fix to address the absence of a SAT process in many organizations, and for political expediency. With the implementation of SAT, arbitrary mandates are no longer needed. If the 32 hour requirement remains, then the equivalent of the Fidrych letter of 2004 needs to be provided.
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p> <p>The majority of the commenter's in Draft 2 of this Standard supported including this requirement in the System Personnel Training standard. The SPT SDT has included topics that could be included in the emergency operations training in the revised Reference Document associated with this Standard – they are the topics that were included in the letter from the Operating Committee chair to the Operating Committee for clarification when the 32 hour training requirement was initiated.</p> <p>The drafting team has included the topics from the Fidrych letter to the Reference Document for this standard.</p>		
MRO NERC Standards Review Subcommittee	Yes	The MRO understands the SDT to be saying that the emergency operations tasks identified in R1.1 can be used in R3. If that is correct the MRO agrees. If this is not the intent of the SDT, please clarify.
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
<p>The SPT SDT agrees that those tasks associated with emergency operations identified in Requirement 1 should be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p>		
Southwest Power Pool - Operations Training Working Group	Yes	We believe this is true, but there are certain tasks that may be required as emergency training which falls under the general list of emergency training as indicated by Mark Fiddich's letter of March 2nd, 2004 that is not expressed by Requirement 1 of company specific related tasks.
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p> <p>It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. However, those tasks associated with emergency operations identified in Requirement 12 should be included. The SPT SDT believes that these tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard — they are the topics that were included in the letter from the Operating Committee chair to the Operating Committee for clarification when the 32 hour training requirement was initiated.</p> <p>The drafting team has included the topics from the Fidrych letter to the Reference Document for this standard.</p>		
AEP	Yes	We believe this is true but it should not harbor the intent that all emergency training should only be in conjunction with reliability tasks. Some tasks relate to emergency training which are indirect subsets of the reliability tasks. All emergency training done for the 5 days of emergency training should be considered satisfactory training whether directly or indirectly related to a reliability task. The present guidelines for emergency training topics identified by the Personnel Sub-committee in Mark Fydrich's letter of March 2, 2004 on recommended training topics should remain the guidelines for emergency training topics.
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p> <p>It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. However, those tasks associated with emergency operations identified in Requirement 12 should be included. The SPT SDT believes that these tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard – they are the topics that were included in the letter from the Operating Committee chair to the Operating Committee for clarification when the 32 hour training requirement was initiated..</p>		
We Energies	Yes	The company's task list will not identify all of the allowed emergency operations training topics.
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</p> <p>It was not the intent of the SPT SDT to limit the emergency operations training to only tasks identified in Requirement 1. However, those tasks associated with emergency operations identified in Requirement 12 should be included. The SPT SDT believes that these tasks identified in Requirement 1 could be used as a starting point for development of the emergency operations training. Additional training topics that could be included in the training can be found in the revised Reference Document associated with this Standard.</p>		
Northeast Utilities	Yes	No specific duration associated with system restoration training. Should there be a minimum number of hours per year for system restoration training?
<p><b>Response:</b> The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment. The SPT SDT believes that the type of system restoration training and associated length of training should be determined by the individual entity.</p>		
Manitoba Hydro	Yes	Manitoba Hydro agrees that a company's list of reliability related task which include tasks related to emergency operations



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
		be used to identify training needs.
<a href="#">Response: The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</a>		
American Transmission Company	Yes	TC agrees with the SDT that the task list required by R1 can be used to identify those emergency operation tasks which can be used to satisfy R3.
<a href="#">Response: The SDT SPT acknowledges your affirmative response and thanks you for your clarifying comment.</a>		
Bonneville Power Administration	Yes	
Operating Reliability Working Group (ORWG)	Yes	
Sacramento Municipal Utility District	Yes	
NPCC Regional Standards Committee	Yes	
MidAmerican Energy Company	Yes	
Grant County PUD	Yes	
Cowlitz County PUD No. 1	Yes	
Arizona Public Service Company	Yes	
E.ON U.S.	Yes	No comment
Niagara Mohawk (DBA National Grid)	Yes	
WECC Reliability Coordination Comments Work Group (RCCWG)	Yes	
CECD	Yes	
Salt River Project	Yes	
Pacific Gas and Electric Company	Yes	
Allegheny Power	Yes	
Public Service Commission of South Carolina	Yes	
ISO New England Inc.	Yes	
Baltimore Gas &	Yes	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 2:	Question 2 Comments:
Electric		
New York Independent System Operator	Yes	
FirstEnergy	Yes	
Ontario IESO	Yes	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

### 3. Do you agree with the revised Measures identified for each requirement in the revised standard? If not, please explain in the comment area.

#### Summary Consideration:

The majority of those entities responding agreed with the Measures as presently defined. For those responders disagreeing with the Measures, there appeared to be significant concern with the sub-measures and keeping documentation of compliance on-site. There also appeared to be confusion surrounding the training required in this Standard and the certification process.

The SPT SDT explained the sub-measures were a means to provide consistency in measuring compliance with the sub-requirements. The SPT SDT further explained that 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. The task list is used to identify the necessary training as stated in R1. A systematic approach to training is then used to develop the associated training for each task.

With regards to the concern surrounding the requirement to provide documentation on-site the SPT SDT explained that, as with other standards, it is the entity's responsibility to provide all documentation necessary to reflect compliance.

The SPT SDT also explained that the NERC Certification Process and NERC Continuing Education (CE) Program are not a part of this standard. This standard applied to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). As envisioned, much of the training developed and delivered in accordance with this standard could be used to meet CEH.

Organization	Question 3:	Question 3 Comments:
Grant County PUD	No	<p>I note that there is a new requirement R2 which appeared suddenly with this version. You don't seem to be taking comments directly on this new addition though. Is this in accordance with the ANSI process for standards development? The proposed new R2 and its associated measure require a new verification of operator capability to perform the tasks identified in R1 at least one time. This verification is very different from the previous requirement to perform a training needs analysis based on performance mis-matches.</p> <p>What is the time period allowed to do the initial verification. Since the proposed effective date is 36 months after date of approval, should one assume that entities must be in compliance at that time with the requirement to do the initial one time verification?</p> <p>Please explain the point of doing this verification of capabilities only once? This seems to miss the boat on the benefit of refresher training. The only requirement will be to train when a new task is identified or an existing one is modified. Thus, an entity would be absolved from providing any refresher for operators on tasks that have not changed but which may be very difficult, highly important to be done correctly and performed only infrequently? This doesn't seem to meet the needs of system operators who are an essential element in maintaining bulk electric system reliability.</p> <p>Does this one time verification remove the 3 year certificate renewal cycle?</p> <p>If not, how does the one time verification fit into the overall systematic approach to training?</p> <p>What's the difference between the one time verification and initial certification? If you still have to renew your certificate every 3 years, doing this verification (at least one time) makes no sense because a systematic approach to training would</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 3:	Question 3 Comments:
		revisit training on tasks based on the results of the Difficulty, Importance, and Frequency (DIF) analysis.
		<p><b>Response:</b> As stated in Draft 2 of the System Personnel Training Consideration of Comments, the SPT SDT clarified the language in R4 (now R2) to state that the assessment is a one-time verification of each system operator's capabilities. The SPT SDT also added a sub-requirement that clarifies that additional assessments must be performed as the operator's assigned task list is modified. This would not preclude an entity from verifying the capability more than once.</p> <p>The SPT SDT believes that with the additional training required (i.e., Emergency Operations, CEH, etc.) and the re-assessment of an operator's capabilities when the task list is modified that an initial one time training assessment is sufficient. However, this does not preclude an entity from performing training outside this Standard.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). As envisioned, much of the training developed and delivered in accordance with this standard could be used to meet CEH.</p>
California ISO	No	We recommend the following:M1: Delete all M1 sub-measures, since we believe all R1 sub-requirements should be eliminated.M2: Delete references to R1.1
		<b>Response:</b> The SPT SDT believes that the sub-measures provide a necessary means of reflecting compliance with the sub-requirements. The sub-requirements simply list common elements that are in every systematic approach to training process. While the SAT process may be used by many entities, the comments received during the development of this standard indicate that there are many entities that have little or no familiarity with the SAT process.
PJM Interconnection, LLC	No	Due to the changes recommended above, all measures and sub-measures should be eliminated except for M1 and M3.
		<b>Response:</b> The SPT SDT believes that the measures and sub-measures provide a necessary means of reflecting compliance with the requirements and sub-requirements. The sub-requirements simply list common elements that are in every systematic approach to training process.
ERCOT Inc.	No	M1 is fine, but as noted above M1.1 through M1.4 should be deleted along with R1.1 through R1.4. If R3 is changed, then M3 must be changed.
		<p><b>Response:</b> The SPT SDT believes that the sub-measures provide a necessary means of reflecting compliance with the sub-requirements. The sub-requirements simply list common elements that are in every systematic approach to training process. There are multiple variations of a systematic approach to training. 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 or no familiarity with the SAT process. Keeping the reference to the SAT process in R1 along with the subrequirements provides greater clarity to the intent of the requirement, so the sub-requirements were retained.</p> <p>R3 was modified to clarify what entities are required to use simulation technology in their emergency operations training – and M3 was modified to support the revisions to R3.</p>
MidAmerican Energy Company	No	Some training materials will be the property of third party providers of learning activities. Not all training materials will be developed by entity that developed the task list as suggested in M1.2. M1.2 should modified to "...have available for inspection its learning objectives and any training material self-supplied as specified in R2.2Based on what I have heard, the records kept in the NERC data base can not be accessed by anyone other than the system operator. M1.3 should be modified to read, "... showing the names of the people trained, the title of the training received and dates received to show that its operators received the training specified in R1.3 (2.3)
		<b>Response:</b> The SPT SDT revised the measures from Draft 2 to Draft 3. As stated in the Consideration of Comments on 2 <sup>nd</sup> Draft of System Personnel Training Standard the measures now include examples of evidence, which do not exclude the use of vendors.

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 3:	Question 3 Comments:
<p>With reference to Measure 1.2 the SPT SDT acknowledges your comment and understands your concern. However, as with other standards it is the entity's responsibility to provide all documentation necessary to reflect compliance.</p> <p>The Measure for training delivery (M1.3) requires responsible entities to have System Operator training records showing the names of the people trained, the title of the training delivered and the dates the training was delivered.</p>		
Santee Cooper	No	Santee Cooper feels that some of the items of evidence defined in the measures are not part of the SAT process (audit results, supervisor feedback). The SDT may have been trying to give some examples here but during an audit a company may be held to provide all the listed items as evidence. Including some words such as "shall have and provide upon request evidence that could include, but is not limited to" would help clarify that the list is examples only and that all items do not have to be provided during an audit.
<p><b>Response:</b> The Measures lists examples of a means to document compliance. However an entity is not limited to only the methods provided in the measure. The SPT SDT believes that it is the entity's responsibility to determine how it will show compliance unless the standard specifically requires entities to show specific evidence. The Measures have been written to allow entities latitude in using a variety of evidence for most requirements. The use of the phrase, "such as" clearly demonstrates that the items listed are examples and are not an exclusive or a mandatory list of evidence. The SPT SDT modified the measure to clarify that the audit that may be used to assess the effectiveness of the training program is an "internal" audit.</p>		
SERC System Operator Subcommittee (SOS) of the SERC Operating Committee	No	Section C of this standard indicates that responsible entities will be measured on specific items of evidence that demonstrate use of the SAT. However, many of these items are not explicitly stated in the standard requirements themselves. For instance, Measure M1.4 lists evidence such as instructor observations and learning assessments that were not previously identified in R1.4. In addition, some items of evidence for measuring entity performance are not part of the SAT process at all - for example, audit results and supervisor feedback. The requirements section of this standard needs to be reworded to better define what specific items of evidence are required.
<p><b>Response:</b> The Measure M1.4 lists examples of a means to document compliance. However an entity is not limited to only the methods provided in the measure. The SPT SDT believes that it is the entity's responsibility to determine how it will show compliance. The SPT SDT modified the measure to clarify that the audit that may be used to assess the effectiveness of the training program is an "internal" audit.</p>		
SERC OC Standards Review Group (Project 2006-01)	No	Section C of this standard indicates that responsible entities will be measured on specific items of evidence that demonstrate use of the SAT. However, many of these items are not explicitly stated in the standard requirements themselves. For instance, Measure M1.4 lists evidence such as instructor observations and learning assessments that were not previously identified in R1.4. In addition, some items of evidence for measuring entity performance are not part of the SAT process at all - for example, audit results and supervisor feedback. The requirements section of this standard needs to be reworded to better define what specific items of evidence are required.
<p><b>Response:</b> The Measure M1.4 lists examples of a means to document compliance – this is an acceptable method of establishing measures. However an entity is not limited to only the methods provided in the measure. The SPT SDT believes that it is the entity's responsibility to determine how it will show compliance unless the standard specifically requires entities to show specific evidence. The Measures have been written to allow entities latitude in using a variety of evidence for most requirements. The use of the phrase, "such as" clearly demonstrates that the items listed are examples and are not an exclusive or a mandatory list of evidence. The SPT SDT modified the measure to clarify that the audit that may be used to assess the effectiveness of the training program is an "internal" audit.</p>		
FirstEnergy	No	M1.4 - The parenthetical examples are good to help with the compliance of R1.4, but entities may be tied down to these specific methods. Just to assure that other effective methods can be used, we suggest a rewording of M1.4 as follows: "The Reliability Coordinator, Balancing Authority, and Transmission Operator shall have available for inspection evidence that it performed a training program evaluation, as specified in R1.4 (evidence may include, but not limited to, instructor

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 3:	Question 3 Comments:
		observations, trainee feedback, course evaluations, etc.)
<p><b>Response:</b> The Measure M1.4 lists examples of a means to document compliance. The use of the phrase, “such as” clearly demonstrates that the items listed are examples and are not an exclusive or a mandatory list of evidence. However an entity is not limited to only the methods provided in the measure. The SPT SDT believes that it is the entity’s responsibility to determine how it will show compliance unless the standard specifically requires entities to show specific evidence. The Measures have been written to allow entities latitude in using a variety of evidence for most requirements.</p>		
MRO NERC Standards Review Subcommittee	No	The MRO believes that the requirement in M1.2 to provide training materials could create an undo burden on the applicable entity if the audit was not conducted at the entity’s site. The MRO recommends that this measure should be altered to reflect that concern.
<p><b>Response:</b> The SPT SDT acknowledges your comment and understands you concern. However, as with other standards it is the entity’s responsibility to provide documentation to reflect compliance.</p>		
Midwest ISO Stakeholder Collaborators	No	We are concerned that M1.2 could be burdensome. Specifically, what does have available for inspection mean? Training materials are often quite voluminous and can actually include systems such as simulators. We do not believe that the registered entity should be required to make these materials available for inspection off-site. We recommend modifying the measure to make it clear that inspection must occur at the location of the materials and systems to avoid this burden.
<p><b>Response:</b> The SPT SDT acknowledges your comment and understands you concern. However, as with other standards it is the entity’s responsibility to provide all documentation necessary to reflect compliance.</p>		
The Detroit Edison Company	No	We believe M1.2 should read: Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have available for inspection its learning objectives and a representative sample of training materials with all training materials available at the business location, with the date of the last revision, as specified in R1.2.
<p><b>Response:</b> The SPT SDT acknowledges your comment but respectfully disagrees. All training material needs to be available for inspection. As with other standards it is the entity’s responsibility to provide documentation to reflect compliance.</p>		
Duke Energy Corporation	No	See response to question #1 above. All the requirements of this standard need to be revised and the measures should be developed to fit the revised requirements.
<p><b>Response:</b> The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>As 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.</p>		
PSEI	No	This process should only apply to those entities that are NERC approved providers awarding CEHs.
<p><b>Response:</b> This Standard applies only to those NERC registered applicable entities as defined within the Standard. This includes all Reliability Coordinators, Transmission Operators and Balancing Authorities.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). As envisioned, much of the training developed and delivered in accordance with this standard could be used to meet CEH.</p>		
Ohio Valley Electric Corporation	No	The emphasis on documentation in this standard does not seem conducive to improved reliability, as a previous commenter from Draft 1 of this standard observed. The measures may provide an incentive to create documents, but are there mechanisms in the compliance process to distinguish between an entity that is providing the appropriate training and

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 3:	Question 3 Comments:
		documenting it versus an entity that is merely creating documents? Similarly, an entity may be taking all of the right steps, providing the necessary training, but lacks having all of the mandated documentation (perhaps because of a lack of resources to maintain the documentation). Between the paper-creating entity and the proper training entity, which is in compliance and more importantly which is more reliable? Some may comment that without documentation there is no way to measure compliance. While compliance auditors will certainly look at documentation they make no attempt to compare the contents of the documentation with actual practices. If the documentation contains the right words, the entity is deemed to be in compliance, regardless of whether the words in the documents were put into practice. Thus, if compliance can be verified by observing the actual practices, then why is the documentation even needed?
<p><b>Response:</b> The SPT SDT acknowledges your comment but respectfully disagrees. With enforceable standards, every effort needs to be made to ensure that the standards are being enforced in an objective manner – and that is difficult to do when relying upon personal observations.</p> <p>The SPT SDT believes that supporting documents are necessary means to reflect compliance with the Standard.</p>		
LCRA	No	If I do not agree with the task list in the first place, it only follows that I would not agree with the measures. The measures themselves create an administrative nightmare for smaller utilities with respect to record keeping. There seems to be a disconnect on NERC's part as to how much the "one man shops" can handle. Not every utility in NERC has a large, complex training staff. In fact, many have one trainer, or even none. What is proposed by this standard will make training unmanageable.
<p><b>Response:</b> The SPT SDT acknowledges your comment but respectfully disagrees. The SPT SDT believes that supporting documents are necessary means to reflect compliance with the Standard.</p>		
CAISO	No	No comment
Gainesville Regional Utilities	No	
Entergy Services, Inc. System Planning & Operations (Generation & Marketing)	Yes	See the comment regarding "company specific" in question 1.
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. The Standard is not intended to specify how an entity develops the company specific task lists. Whatever is logical and fits the organizational structure that is justifiable should be sufficient. 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 depending upon the operating position, responsibility of the position and the specific system for which the list is being developed. The revised Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p>		
Arizona Public Service Company	Yes	M2 is unclear to me. The way I read it, within 36 months of the standard's approval, each operator must be evaluated on each assigned task, even if they are experienced incumbents. This may be done in one of three "methods": Training records, Supervisor check sheets, or Learning assessments. These "methods" are open to interpretation. To me, they mean the following: Training records = training on the task is provided and evaluated and the attendance sheet and grade is archived Supervisor checklist = floor supervisor sees operator perform task satisfactorily and marks it complete on a tracking sheet. Learning assessment = an operator successfully answers questions about a given task. Somebody may interpret those methods entirely differently. We need to understand the expectations, or the audit will be needlessly painful.
<p><b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. We agree with your interpretation of M2.</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 3:	Question 3 Comments:
WECC Reliability Coordination Comments Work Group (RCCWG)	Yes	The WECC RCCWG agrees with the revised Measures, assuming that there would be a 12 month requirement for emergency training for new hires. Please clarify this is a correct assumption.
<b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. Your understanding is correct.		
Pepco Holdings, Inc. - Affiliates	Yes	Revise M1 to reflect the revised wording in R1 above. For example: Each RC, TA and TOP shall have available for inspection evidence of establishing a new or modifying an existing training program developed using a systematic approach to training. A 4th Requirement and a 4th Measure should be added - see our comments in 5 below
<b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment but feels that the present wording is sufficient.		
FRCC	Yes	However, It appears that the measure after M1.3 that is identified by M1. should really be M1.4 And, if the requirements change based on industry comments the measurements will need to be reevaluated and modified.
<b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment. This has been corrected.		
Manitoba Hydro	Yes	Manitoba Hydro agrees with the measures.
<b>Response:</b> The SPT SDT acknowledges your affirmative response and thanks you for your clarifying comment.		
Sacramento Municipal Utility District	Yes	
Northeast Utilities	Yes	
NPCC Regional Standards Committee	Yes	
firstenergy	Yes	
Bonneville Power Administration	Yes	
tampa electric company	Yes	
Operating Reliability Working Group (ORWG)	Yes	
Cowlitz County PUD No. 1	Yes	
E.ON U.S.	Yes	
Hydro One Networks - Reliability Standards Group	Yes	
American Transmission Company	Yes	
Niagara Mohawk (DBA National Grid)	Yes	
Southwest Power Pool	Yes	



Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 3:	Question 3 Comments:
- Operations Training Working Group		
CECD	Yes	
Salt River Project	Yes	
Pacific Gas and Electric Company	Yes	
Xcel Energy	Yes	
Allegheny Power	Yes	
Public Service Commission of South Carolina	Yes	
WECC Operations Training Subcommittee	Yes	
ISO New England Inc.	Yes	
AEP	Yes	
BCTC	Yes	
We Energies	Yes	
Baltimore Gas & Electric	Yes	
New York Independent System Operator	Yes	
Ontario IESO	Yes	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

4. Do you agree with the revised Violation Severity Levels for each of requirement in the revised standard? If not, please explain in the comment area.

### Summary Consideration:

The majority of responders disagreed with the Violation Security Levels (VSLs) associated with this Standard. The major concern centered on how the VSLs were developed. There was also concern that the requirement of providing 32 hours of emergency operations training was not being addressed in the VSLs. In addition there appeared to be concern that the Standard required that all of the methods of providing training identified in Requirement 3 had to be used.

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.

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 training methods identified in Requirement 3 are only examples of how the training could be accomplished. The SPT SDT modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:

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.

R3.1 "Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have 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.

The SDT is not attempting to define the method of training (with the exception of the use of simulators) but feels it was more prudent for the individual entity to determine the best method of providing the training to its System Operators dependent upon their unique system parameters.

Organization	Question 4:	Question 4 Comments:
FRCC	No	For R1, the Medium VSL states ".....evaluating its training program efectiveness to..." The word effectiveness is not in the requirement and is vague. What does effectiveness mean and how would it be evaluated. We would recommend removing the word effectiveness and sticking to what the requirement states.  For the High and Severe VSLs, the phrase "when developing a new or modifying an existing training program" is used. These words are not in the requirements and we are unclear as to how they should be evaluated. There is not a

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p>requirement to modify the training program, only to conduct an evaluation of the training program to identify changes. This phrase added into the VSL descriptions seems to imply more than the requirements actually state. Either remove this phrase or modify the requirements to be more clear.</p> <p>For the Severe VSL do the words "...failed to deliver training based on the BES company specific reliability related task list." mean that every task must be trined on, or only tasks from the list, or you only have to include some of the list to get the check off?</p> <p>For R2, the first part of the requirement only requires that verification of the operators capabilities be done at least one time. There is no time period specified. Then later in the requirement it speaks to verification within 6 months of a modification of the tasks. It looks like having the VSL be high when the responsible entity fails to verify capabilities within 6 months of a change is in conflict with having 90-100% verification be a medium since its quite possible that more than 90% would be verified, even without verifying the changed capabilities.</p>
<p><b>Response:</b> The SPT SDT acknowledges your response concerning the Requirement 1 VSL and is in agreement. The word "effectiveness" has been removed from the Requirement 1 VSL.</p>		
<p>In regards to your comment concerning the use of the term "developing" in the VSL, the SPT SDT believes that developing a new training program is the same as establishing a new training program. This terminology used in the standard is reflected in the VSL and the measures associated with this requirement provide examples of evaluation criteria. In addition, all tasks identified in the BES company specific related task list must have associated training.</p>		
<p>We appreciate your comments concerning Requirement 2 but do not see a conflict based on the VSLs associated with the requirements. Requirement 2 does require the verification of the operators capabilities be done at least one time (on the BES company specific reliability related task) whereas Requirement 2.1 is applying a time frame to train the system operators when any changes occur in the entity's BES company specific reliability related task list.</p>		
Hydro One Networks - Reliability Standards Group	No	<p>Where is the VSL for R1.1.1 (annual update to list of tasks)? As well, the VSL for R1.4 needs a time frame (see comment for question 1). Also, the VSL for R3 should be re-written based on number of hours of training completed or incomplete rather than % of operators trained. Having any operator untrained (less than xx hours/12 months) should be lumped into the Severe VSL.</p>
<p><b>Response:</b> The SPT SDT thanks your catching this oversight. The moderate VSL has been modified to reflect compliance with R1.1.1.</p>		
<p>The SPT SDT has modified Requirement R1.4 to provide a time frame for evaluation of a training program. R1.4 now reads "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". This provides the necessary medium for evaluating compliance.</p>		
<p>With regards to your concern with Requirement 3, the determination of Violation Severity Levels (VSLs) is based on 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 developing VSLs. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p>		
PSEI	No	<p>Administrative type violations should not result in High or Severe VSLs. Especially for the omission of a single task or piece of "evidence".</p>
<p><b>Response:</b> The determination of the Violation Severity Level (VSL) is based on 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. The VSL</p>		

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p>Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p> <p>In addition, if a task is significant enough to warrant inclusion in the BES company specific related task list then the associated training must be provided. Failure to provide the training would imply the task was not important enough to warrant the time to provide the necessary training. This develops in to a conundrum.</p>
Southwest Power Pool - Operations Training Working Group	No	<p>Most operators base their training schedules on a twelve month calendar instead of the six month limit as noted in the proposed standard on R2 High VSL. R3 High VSL makes no provision for hardships or mid-year hires.</p> <p><b>Response:</b> The high VSL is associated with R2.1 which applies a six month time frame to train the system operators when any changes occur in the entity's BES company specific reliability related task list. Additionally, the determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p> <p>The Standard Drafting Team recognizes that hardship circumstances will arise. The SDT feels that these instances will be addressed on a case-by-case basis by the Compliance Monitoring Enforcement Program (CMEP). It is not feasible that a Standard could address every possible situation.</p>
Ohio Valley Electric Corporation	No	<p>The Violation Severity Levels are all skewed towards the severe level. The Violation Severity levels should be skewed towards the lower level.</p> <p><b>Response:</b> The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p>
tampa electric company	No	<p>I do not agree that any part of a training program should have high or severe VRFs.</p> <p><b>Response:</b> The SPT SDT assumes that your comment concern the VSLs since the question referenced VSLs not VRFs. The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. Note that VSLs identify categories of noncompliant performance with the "Lower VSL" identifying performance that was close to being fully compliant and "Severe" VSL identifying performance that does not meet the intent of the requirement- VSLs do not identify the reliability-related risk associated with noncompliance.</p>
Operating Reliability Working Group (ORWG)	No	<p>Why is missing one new or modified task just as severe as missing 30% of the existing tasks in R2?</p> <p><b>Response:</b> The SPT SDT acknowledges your response but feels there may be a misunderstanding of the VSL. The first portion of the VSL relates to the number of System Operators that received the necessary training identified. The second half of the VSL references a task that has been identified as a reliability related issue but training on the issue was not provided to the System Operators. In either instance the SPT SDT believes that one is as significant as the other.</p>
Santee Cooper	No	<p>The Severe VSL for all requirements should be the responsible entity did not have a training program. Shift the medium VSL to the lower, the high VSL to the medium, etc. for all the requirements. It appears that an entity that has implemented a reasonable training program could be punished severely.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p><b>Response:</b> The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. Note that VSLs identify categories of noncompliant performance with the "Lower VSL" identifying performance that was close to being fully compliant and "Severe" VSL identifying performance that does not meet the intent of the requirement– VSLs do not identify the reliability-related risk associated with noncompliance.</p>
WECC Operations Training Subcommittee	No	By the definition of the VSL the administrative functions of non-compliance does not put the BES at risk, thus all the current VSL should include a lower VSL.
		<p><b>Response:</b> The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. Note that VSLs identify categories of noncompliant performance with the "Lower VSL" identifying performance that was close to being fully compliant and "Severe" VSL identifying performance that does not meet the intent of the requirement– VSLs do not identify the reliability-related risk associated with noncompliance.</p>
WECC Reliability Coordination Comments Work Group (RCCWG)	No	The WECC RCCWG believes that the Severe VSL for R3 should be worded as follows: "... The responsible entity did not include in its emergency training, the use of drills, exercises, OR (emphasis added) hands on training using simulators. The WECC RCCWG does not believe that all three types of training must be covered. Additionally, simulation can be accomplished without the use of a simulator.
		<p><b>Response:</b> In FERC Order 693 the Commission (FERC) directed NERC to provide for the use of simulators as a means of training. The SPT SDT has modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The SPT SDT did not attempt to define the method of training (with the exception of the use of simulators) but felt it was more prudent for the individual entity to determine the best method of providing the training to their System Operators dependent upon their unique system parameters.</p>
We Energies	No	R3 Severe VSL: The phrase "...the use of drills, exercises, and hands on training using simulators." is reasonably interpreted as "the use of drills and exercises and hands on training using simulators." This phrase should be reworded.
		<p><b>Response:</b> The SPT SDT has modified Requirement 3 to provide clarity. The requirement now reads “</p> <p>At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		The SPT SDT did not attempt to define the method of training (with the exception of the use of simulators) but felt it was more prudent for the individual entity to determine the best method of providing the training to their System Operators dependent upon their unique system parameters.
NPCC Regional Standards Committee	No	For R3, there should be VSLs assigned for providing less than 32 hours of training, not just on the percentage of system operators receiving the 32-hour training. <b>Response:</b> The SDT believes that the VSL, as presently written, addresses the issue of providing less than the required number of hours of emergency training. For instance, if an entity were to only provide 30 hours of emergency training to all of its system operators, the entity would have provided 0% of the system operators with 32 hours of emergency operations training and therefore would be deemed to be non-compliant with the requirement.
Niagara Mohawk (DBA National Grid)	No	For R3, there should be VSLs assigned for providing less than 32 hours of training, not just on the percentage of system operators receiving the 32-hour training. <b>Response:</b> The SDT believes that the VSL, as presently written, addresses the issue of providing less than the required number of hours of emergency training. For instance, if an entity were to only provide 30 hours of emergency training to all of its system operators, the entity would have provided 0% of the system operators with 32 hours of emergency operations training and therefore would be deemed to be non-compliant with the requirement.
ISO New England Inc.	No	For R3, there should be VSLs assigned for providing less than 32 hours of training, not just on the percentage of system operators receiving the 32-hour training. <b>Response:</b> The SDT believes that the VSL, as presently written, addresses the issue of providing less than the required number of hours of emergency training. For instance, if an entity were to only provide 30 hours of emergency training to all of its system operators, the entity would have provided 0% of the system operators with 32 hours of emergency operations training and therefore would be deemed to be non-compliant with the requirement.
Ontario IESO	No	For R3, there should be VSLs assigned for providing less than 32 hours of training, not just on the percentage of system operators receiving the 32-hour training. <b>Response:</b> The SDT believes that the VSL, as presently written, addresses the issue of providing less than the required number of hours of emergency training. For instance, if an entity were to only provide 30 hours of emergency training to all of its system operators, the entity would have provided 0% of the system operators with 32 hours of emergency operations training and therefore would be deemed to be non-compliant with the requirement.
SERC System Operator Subcommittee (SOS) of the SERC Operating Committee	No	All requirements of this standard need to be adequately defined before violation severity levels can be identified and applied. <b>Response:</b> The SPT SDT acknowledges your comment but feels that the present wording of the requirements provides for sufficient clarity.
SERC OC Standards Review Group (Project 2006-01)	No	All requirements of this standard need to be adequately defined before violation severity levels can be identified and applied. <b>Response:</b> The SPT SDT acknowledges your comment but feels that the present wording of the requirements provides for sufficient clarity.
California ISO	No	Since we recommended deleting all R1 sub-requirements, all references to the "task list" should be changed to "BES company-specific reliability-related tasks" <b>Response:</b> As we stated earlier, 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.  With regards to your comment concerning referencing a task list, the SPT SDT agrees and the term, "task list" has been replaced with "tasks".
PJM Interconnection, LLC	No	The R1 VSL should be based on the overall number of training components or modules that an entity is non-compliant with in comparison to the size of its overall training program. For example, if an entity does not use the SAT methodology in two

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		of its 50 training modules, the VSL would be lower than if its total number of courses was only 20. The R2 VSL should be eliminated, as recommended above. The R3 VSL statement? OR The responsible entity did not?? Should be eliminated.
<p><b>Response:</b> The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p> <p>With regards to your comment concerning R1 VSLs, the SPT SDT believes that the intent of the Requirement is to use a systematic approach to training for all company-specific reliability-related tasks. Therefore, the SDT does not feel that it would sufficient to measure compliance on the percentage of processes used.</p> <p>The SPT SDT acknowledges your comments concerning the VSLs associated with Requirements 2 and 3. However, The SPT SDT believes that the VSLs, as written, provide the necessary means to reflect the degree of non-compliance with the standard.</p>		
Pacific Gas and Electric Company	No	Much of this standard reflects documentation of an individual and their training program. Documentation of training is not a guarantee that operational errors won't occur, merely that training did or did not occur. In reviewing the VSLs we question why there is not a category of "Lower" added to the VSLs and why there is a category of "Severe". Is it to be assumed that lack of documentation is a possible precursor to an operator having an operational error on the BES? The VSLs need to reflect the affect on the BES from the lack of performing a requirement and lack of documentation for training on a dynamic system does not warrant a "Severe" level.
<p><b>Response:</b> We appreciate your comment and agree that documentation alone is not a guarantee of the operator's ability. The registered entity must supply evidence that it has met the requirements as specified in the reliability standard. Compliance auditing must adhere to the ERO Rules of Procedure as approved by FERC.</p> <p>The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p>		
BCTC	No	Any violation of an administrative nature should not put the BES at risk, thus all the current Requirements that are of an administrative nature should have a lower VSL. Many of the Requirements are administrative issues. For example, if the administration is not done but training has been completed then the risk to the Power System is quite different than if training is not being done.
<p><b>Response:</b> The registered entity must supply evidence that it has met the requirements as specified in the reliability standard. Compliance auditing must adhere to the ERO Rules of Procedure as approved by FERC.</p> <p>Violation Severity Levels identify categories of noncompliant performance – performance that is very close to being fully compliant has a “Lower” VSL and noncompliant performance that does not meet the intent of the requirement is a “Severe” VSL. Violation Risk Factors (VRFs) assess the reliability-related impact of a violation.</p> <p>The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p>		
MRO NERC Standards Review	No	Violation Severity Levels: R1, This requirement is based on using the SAT process (creating an Operator Task list and updating that Task list is part of the SAT process).

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
Subcommittee		<ul style="list-style-type: none"> <li>▪ The Lower VSL should read "The entity used at least 75%, but less than 100% of the SAT processes in its training program.</li> <li>▪ The Medium VSL should read "The entity used at least 50% but less than 75% of the SAT processes in its training program.</li> <li>▪ The High VSL should read " The entity used at least 25% but less than 50% SAT processes in its training program. The</li> <li>▪ Severe VSL should read " The entity used less than 25% of the SAT process in its training program.</li> </ul> <p>R2, This requirement is based on the entity verifying that a System Operator can perform the task (list) identified in R1.1.</p> <ul style="list-style-type: none"> <li>▪ The Lower VSL should read "The 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."</li> <li>▪ The Medium VSL should read "The entity verified at least 80% but less than 90% of its System Operators' capabilities to perform each assigned task from its list of BES company specific reliability related tasks."</li> <li>▪ The High VSL should read "The entity verified at least 70% but less than 80% of its System Operators' capabilities to perform each assigned task from its list of BES company specific reliability related tasks."</li> <li>▪ The Severe VSL should read "The 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."</li> </ul> <p>R3, This requirement is based on System Operators shall have 32 hours of emergency training per year. The written VSL for R3 is based on the number of System Operators not the hourly amount of training per System Operator. So, if we had 10 System Operators all with 31 hours of emergency training, we would be in the Severe VSL column. But if we had 10 System Operators, 9 with 32 hours, 1 with 0 hours of emergency training, we would be in the Medium VSL column. R3's VSLs need to be rewritten.</p> <ul style="list-style-type: none"> <li>▪ The LOWER VSL should read "At least 1 System Operator had less than 32 hours of emergency training but greater than 30 hours.</li> <li>▪ The Medium VSL should read "At least 1 System Operator had less than 30 hours of emergency training but greater than 28 hours.</li> <li>▪ The High VSL should read "At least 1 System Operator had less than 28 hours of emergency training but greater than 26 hours.</li> </ul>



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<ul style="list-style-type: none"> <li>The Severe VSL should read "At least 1 System Operator had less than 26 hours of emergency training."</li> </ul>
<p><b>Response</b>            With regards to your comment concerning R1 VSLs, the SPT SDT believes that the intent of the Requirement is to use a systematic approach to training for all company-specific reliability-related tasks. Therefore, the SDT does not feel that it would be sufficient to measure compliance on the percentage of the processes used.</p> <p>Concerning your comment related to R3 VSLs, the SPT SDT believes that the requirement is to provide 32 hours of emergency operations training and to provide less than the 32 hours of training would be insufficient to meet the requirement of the standard.</p>		
Entergy Services, Inc. System Planning & Operations (Generation & Marketing)	No	<p>The VSLs should be as simple as possible. In general, complicated VSLs add unnecessary confusion to addressing compliance. The proposed VSLs for R1 weight each specific sub requirement in one of the VSL categories rather than taking the approach of how much of the SAT process is performed. We recommend a volumetric approach such as SEVERE = "the entity demonstrated less than 2 of the required elements of a SAT training program as identified in R1 through R 1.4". The proposed VSL for R2 is not consistent in its approach to the modified company-specific reliability task list. It should have a graduated scale just as the "original" task list. The proposed VSL for R3 drops the "use of drills, exercises," into the Severe category. Eliminate this as this is defined in the requirement it self. If VSL will dependent upon how much training is accomplished using "drills, exercises," then the VSLs must be graduated as well. E.g. Severe = less than 18 hours of emergency training included drills, exercises, and hands on simulators".</p>
<p><b>Response:</b> With regards to your comment concerning R1 VSLs, the SPT SDT believes that the intent of the Requirement is to use a systematic approach to training for all company-specific reliability-related tasks. Therefore, the SDT does not feel that it would sufficient to measure compliance on the percentage of processes used.</p> <p>The SPT SDT feels that the VSLs for R2 and R3, as currently written, provide for the use of a graduated scale for determination of compliance violation severity. Therefore, the SDT does not believe that any further revisions would provide increased clarity for determining compliance violation severity.</p> <p>The SPT SDT has modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other forms of training, which could include simulations.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>Concerning your comment related to R3 VSLs, the SPT SDT believes that the requirement is to provide 32 hours of emergency operations training and to provide less than the 32 hours of training would be insufficient to meet the requirement of the standard.</p>		
AEP	No	<p>R1 Medium VSL - Should be changed to read: "The responsible entity failed to utilize training materials designed and developed with learning objectives based on the BES company specific reliability related task list (when developing a new or modifying an existing training program)."</p> <p>R2 High VSL - The second part of the VSL after "OR" should be changed to read 12 months rather than 6 months as</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p>follows: "The responsible entity failed to verify its system operators' capabilities to perform each new or modified task within Twelve months of making a modification to its BES company-specific reliability related task list".</p> <p>R3 VSLs do not allow for hardships, mid-year hire of certified operators or mid-year certification of new operators. This means that just one operator not receiving the 32 hours of emergency training for any reason would constitute a Medium VSL. We believe each VSL should have the following statement (or similar clarification/exemption) added for R3: "Emergency Hours for system operators who have worked in real-time operations 10 months or less in the year due to hardship, military duty, or other reasons, will be exempt from the 32 hour requirement as follows: less than 10 but more than 8 months - 24 hours of emergency operations training is required; less than 8 months but more than 6 months - 16 hours of emergency operations training is required; less than 6 months but more than 4 months - 8 hours of emergency operations training is required; less than 4 months - totally exempt".</p>
<p><b>Response:</b> R1: This requirement is addressing training material development criteria (R1.2). To change the VSL to include use of training materials designed and developed would not accurately reflect the requirement. The severe VSL addresses the delivery of the developed training materials (R1.3).</p> <p>R 2.1 states "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." The timeline for verification is 6 months as outlined in the requirement whereas R3 has a timeline of 12 months.</p> <p>R3 states: 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. The requirement does not address the different scenarios as stated in your response. Including such would make the requirement very complicated. The VSL does not address new hires or hardships as it's a reflection of the requirement. The regional entity has flexibility in its assessment of a penalty to take this into account.</p> <p>The VSL Severity levels applied to this requirement is based on the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. The VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide apply a more consistent application when developing VSLs.</p>		
ERCOT Inc.	No	<p>When the sub-requirements of R1 are removed, the VSLs need to be completely revised. As written, the VSL for R1 is inconsistent with the requirement. The requirement is to use a systematic approach to training; nowhere does it mention "program effectiveness". This VSL would seem to be imposing a new requirement.</p>
<p><b>Response:</b> The SPT SDT acknowledges your response concerning the Requirement 1 VSL and is in agreement. The word "effectiveness" has been removed from the Requirement 1 VSL.</p>		
Pepco Holdings, Inc. - Affiliates	No	<p>R1 the Medium VSL contains the word "effectiveness" this word should be removed, effectiveness is not mentioned as a part of Requirement 1.</p> <p>Revise the High VSL. Proposed wording: The responsible entity failed to show evidence of developing a new training program or modifying an existing program based on a systematic approach to training in that it did not develop new (or modify existing) learning objectives or design new (or modify existing) training materials based on its company specific reliability related task list</p> <p>Revise the Severe VSLs - examples: The responsible entity failed to show evidence of delivering training to its operators.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p>OR it failed to show evidence of using a systematic approach to training in that it failed to create a list of company specific reliability related tasks upon which to develop a new training program or modify an existing one</p> <p>The High VSL for R2 concerning "verifying operators capabilities to perform new or modified tasks within 6 months" should be moved to Medium. As currently stated a company that failed to verify operators for one new or modified task but verified 100% of its operators on existing tasks would have a Violation Severity Level higher than a company that only verified 90% of its operators on existing tasks.</p> <p>The Severe VSL for R3 on use of drills, exercises etc. should be moved to Medium which would better reflect the suggested revised R3 and indicate that drills, exercises and hands on training simulations are of higher value than training classes alone for emergency operations training</p> <p>Additional VSLs should be developed to address the 4th Requirement proposed in 5 below. Example:</p> <ul style="list-style-type: none"> <li>▪ R4 High. The responsible entity failed to show evidence that it used a systematic approach to training to develop a training program for its delegated tasks.</li> <li>▪ R4 Severe The responsible entity failed to develop a training program for the entities to whom it has delegated tasks</li> </ul>
<p><b>Response:</b> The SPT SDT acknowledges your response concerning the Requirement 1 VSL and is in agreement. The word "effectiveness" has been removed from the Requirement 1 VSL.</p> <p>The SPT SDT acknowledges your comment concerning revision of the VSLs associated with Requirements 1, 2 and 3, but respectfully disagrees. The SDT believes that the VSL's, as presently written, provide for sufficient clarity as well as an effective means of categorizing the degree of non-compliance.</p> <p>The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p>		
New York Independent System Operator	No	Remove the relative term "effectiveness" from the medium VSL on R1. It is not a measurable quantity.
<p><b>Response:</b> The SPT SDT acknowledges your response concerning the Requirement 1 VSL and is in agreement. The word "effectiveness" has been removed from the Requirement 1 VSL.</p>		
Duke Energy Corporation	No	See response to question #1 above. All the requirements of this standard need to be revised and the VSLs should be developed to fit the revised requirements.
<p><b>Response:</b> The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p>		
LCRA	No	
Gainesville Regional	No	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
Utilities		
CAISO	No	No comment
The Detroit Edison Company	No	Don and Mike to address.
Sacramento Municipal Utility District	Yes	The VSL should be either eliminated or at a minimum moved to lowest VSL. The verbiage seems ambiguous and it is debatable that a BES risk exists.
<p><b>Response:</b> The SPT SDT acknowledges your positive response and thanks you for your clarifying comment. The determination of the Violation Severity Level (VSL) is based on 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. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel.</p> <p>Violation Severity Levels do not assess the reliability-related risk caused by a violation of a specific requirement. Violation Risk Factors assess the reliability-related risk of a violation of a requirement. Violation Severity Levels categorize noncompliant performance such that noncompliant performance that is very close to being fully compliant is a "Lower" Violation Severity Level – and noncompliant performance that is mostly or totally misses being fully compliant is a "Severe" Violation Severity Level.</p>		
Northeast Utilities	Yes	For R2, VSL states "At least 90% but less than 100% of its system operator's capability to perform each assigned task." Is the measure for number of system operators or number of assigned tasks?
<p><b>Response:</b> The SPT SDT acknowledges your positive response and thanks you for your clarifying comment. The VSL is based on the number of system operators.</p>		
Manitoba Hydro	Yes	Manitoba Hydro agrees with the revised VSL for each requirement.
<p><b>Response:</b> The SPT SDT acknowledges your positive response and thanks you for your clarifying comment.</p>		
American Transmission Company	Yes	<p>R1 High VSL Suggested modification: Delete everything after "task list" Proposed language: The responsible entity failed to design and develop learning objectives and training materials based on the BES company-specific reliability related task list. The additional language in the draft does not appear in Requirement 1.2 and makes the VSL confusing.</p> <p>R1 Severe VSL. Suggested new language: The responsible entity does not have a task list in their systematic approach to training or The responsible entity failed to deliver the training as specified in their systematic approach to training</p> <p>R2 VSLATC would suggest that the SDT allow for the number of task to be a weight in the calculation of the percentages. Examples: Company a has ten operators and 100 tasks on their task list. Example: The responsible entity was unable to verify that two of its operator's were capable of performing 1 out of the 100 tasks listed in their SAT. <math>(2 * 1) / (10 * 100) = .2\%</math> <math>.2\% - 100\% = 99.8\%</math> The violation would fall in the Medium VSL. The way the current VSL is written it seem that the compliance auditor would use the following formula. <math>2 / 10 = 20\%</math> <math>20\% - 100\% = 80\%</math> The violation would fall in the High VSLATC is requesting that both the number of operators and the size of the task list are included in the calculation for a VSL.</p> <p>R3 VSL ATC believe that both the number of operators and the amount of 32 hours not satisfied should be included in the calculation of the percentage. Examples: Company a has ten operators and each is required to have 32 hours of emergency operations training Example: The responsible entity verified that two of its operator's only completed 30 hours of emergency training. The remaining eight completed all the required hours. <math>(2 * 2) / (10 * 32) = 1.25\%</math> <math>1.25\% - 100\% = 98.75\%</math> The</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p>violation would fall in the Medium VSL. The way the current VSL is written it seem that the compliance auditor would use the following formula. <math>2 / 10 = 20\%</math> <math>20\% - 100\% = 80\%</math> The violation would fall in the High VSLR3 Severe VSL It is our interpretation that the list, specified in R3, are only examples of the types of training. (drills, exercises, and hands on training using, simulators) The language used in the Severe VSL for R3 seems to contradict our interpretation. If the SDT's intent of the list is to provide examples then we believe that the following language should be deleted. "The responsible entity did not include in its emergency training, the use of drills, exercises, and hands on training using simulators." Measure M3 seems to support our interpretation that it is only a list of examples.</p>
<p><b>Response:</b> R1 specifies application of the SAT process to new or modifying an existing training program. R1.2 is a sub-requirement of R1 which applies to all new of modified training programs based on the BES company-specific reliability related task list.</p> <p>The VSL percentages applied to this requirement are based on the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. The VSL Guidelines Criteria document is a tool used in developing Violation Severity Levels to provide apply a more consistent application when developing VSLs.</p> <p>Concerning your comment related to R3 VSIs, the SPT SDT believes that the requirement is to provide 32 hours of emergency operations training and to provide less than the 32 hours of training would be insufficient to meet the requirement of the standard.</p> <p>The SPT SDT acknowledges your comment concerning Measure 3 and has added Measure 3.1 to provide clarity.</p>		
Midwest ISO Stakeholder Collaborators	Yes	<p>Violation Severity Levels:</p> <p>R1, This requirement is based on using a SAT process (creating an Operator Task list and updating that Task list is part of the SAT process). After reviewing the Violation Severity Levels Development Guidelines Criteria developed by the VSL Drafting Team, we believe this requirement could easily be classified as numerical performance. The numerical performance would be calculated based on the number of SAT processes used.</p> <p>The Lower VSL should read "The entity used at least 75%, but less than 100% of the SAT processes in its training program.</p> <p>The Medium VSL should read "The entity used at least 50% but less than 75% processes in its training program.</p> <p>The High VSL should read " The entity used at least 25% but less than 50% SAT processes in its training program.</p> <p>The Severe VSL should read "The entity used less than 25% of the SAT process in its training program. As an alternative, R1 could be classified as multi-component.</p> <p>After reviewing the Violation Severity Levels Development Guidelines Criteria developed by the VSL Drafting Team, we believe R2 can be classified as a numerical performance requirement as well. This requirement is based on the entity verifying that a System Operator can perform the task (list) identified in R1.1.</p> <p>The Lower VSL should read "The 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."</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		<p>The Medium VSL should read "The entity verified at least 80% but less than 90% of its System Operators' capabilities to perform each assigned task from its list of BES company specific reliability related tasks."</p> <p>The High VSL should read "The entity verified at least 70% but less than 80% of its System Operators' capabilities to perform each assigned task from its list of BES company specific reliability related tasks."</p> <p>The Severe VSL should read "The 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."</p> <p>After reviewing the Violation Severity Levels Development Guidelines Criteria developed by the VSL Drafting Team, we believe R3 can be classified as a numerical performance requirement as well. This requirement is based on System Operators shall have 32 hours of emergency training per year. The written VSL for R3 is based on the number of System Operators not the hourly amount of training per System Operator. So, if we had ten System Operators all with 31 hours of emergency training, we would be in the Severe VSL column. But if we had 10 System Operators, nine with 32 hours, one with zero hours of emergency training, we would be in the Medium VSL column. Thus, even though more total hours of training did not occur the latter example results in a lower severity. The VSLs need to consider the aggregate total of hours of training for all system operators. As one example, R3's VSLs could be rewritten.</p> <p>The LOWER VSL could read "At least one System Operator had less than 32 hours of emergency training but greater than 30 hours.</p> <p>The Medium VSL could read "At least one System Operator had less than 30 hours of emergency training but greater than 28 hours.</p> <p>The High VSL could read "At least one System Operator had less than 28 hours of emergency training but greater than 26 hours.</p> <p>The Severe VSL could read "At least one System Operator had less than 26 hours of emergency training. For another example, one could sum all of the system operators training hours and use a numerical performance VSL. For example, 10 system operators require a total of 320 hours of training. If a total of 240 hours of training is delivered to the 10 system operators, a violation has occurred with only 75% of the training occurring. For these VSLs to be effective, any hours over the minimum 32 hours required would have to be ignored and not considered in the calculation. VSLs for could be written as:</p> <p>The LOWER VSL could read "More than 75% of required training hours were delivered."</p> <p>The Medium VSL could read "More than 50% but 75% or less of the required training hours were delivered."</p> <p>The High VSL could read "More than 25% but 50% or less of the required training hours were delivered."</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 4:	Question 4 Comments:
		The Severe VSL could read "25% or less of the required training hours were delivered."
<p><b>Response:</b>            With regards to your comment concerning R1 VSLs, the SPT SDT believes that the intent of the Requirement is to utilize a systematic approach to training for all company-specific reliability-related tasks. Therefore, the SDT does not feel that it would sufficient to measure compliance on the percentage of processes used.</p> <p>Concerning your comment related to R3 VSLs, the SPT SDT believes that the requirement is to provide 32 hours of emergency operations training and to provide less than the 32 hours of training would be insufficient to meet the requirement of the standard.</p>		
firstenergy	Yes	
MidAmerican Energy Company	Yes	
Grant County PUD	Yes	
Cowlitz County PUD No. 1	Yes	
Bonneville Power Administration	Yes	
Arizona Public Service Company	Yes	
E.ON U.S.	Yes	
CECD	Yes	
Salt River Project	Yes	
Xcel Energy	Yes	
Allegheny Power	Yes	
Public Service Commission of South Carolina	Yes	
Baltimore Gas & Electric	Yes	
FirstEnergy	Yes	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

### 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 majority of comments received in this section were reiterating concerns identified in earlier questions. There were a few responders with concerns as to data retention being unclear and that the Violation Risk Factors (VRFs) were set too high because the requirements were administrative in nature. Also, a couple of commenters did not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process) between Reliability Coordinators and other functional entities that work for the Regional Entity and those that do not work for the Regional Entities.

The SPT SDT explained that it agreed the data retention section was unclear and therefore revised it to more accurately reflect either a three year requirement or the last compliance audit, whichever time frame was the greatest and removed each of the sub-sections.

The SPT SDT also explained that based on the existing definitions of the VRFs, the VRFs should not be changed primarily based on the analysis of the August 2003 Blackout which showed that training, or the lack of training, was a significant factor that contributed to the blackout. The VRF Definitions can be found in the NERC Drafting Team Guidelines at ([ftp://www.nerc.com/pub/sys/all\\_updl/standards/dt/Drafting\\_Team\\_Guidelines\\_01Jul07.pdf](ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf)) as well as in the Reliability Standards Development Procedure Manual.

With regards to the confusion surrounding the Reliability Coordinators and other functional entities that work or are employees of a Region and those that do not work for the Regions, the SPT SDT explained that this distinction was made due to FERC's requirement of NERC to perform audits of the Reliability Coordinators and any registered entities that work for the Regional Entity. There are several regions where this is the case not only concerning the Reliability Coordinator, but other registered entities. This is the situation for example in WECC, where the Reliability Coordinators are employees of WECC and report to the WECC Director of the Reliability Coordinators. In all of these situations, FERC views this as a conflict of interest for the regional entity to perform the compliance audit and therefore NERC would perform compliance audits for these exceptions.

Organization	Question 5 Comments:
FRCC	<p>The proposed effective date of 36 months after the first day of the first calendar quarter following regulatory approval is unnecessarily long. What is the rationale for 36 months?</p> <p>In R1, we would suggest to revise ".....shall update its list of BES company-specific...." to say "...shall review and update if needed it's list of BES company-specific...."</p> <p>In R1.4 it is silent to how often an evaluation of the training program must be conducted but it also appears partially redundant with the annual requirement in R1.1. They should agree or a time requirement should be in only one place. If the intent was to establish a continuous improvement mechanism, the drafting team should consider directing the responsible entity to establish a monitoring and improvement program that includes an annual review of the task list and then implement it. That may be more clear.</p> <p>R1.3 is really ambiguous. Does it mean that training will have to be provided annually for every single task on the list? Does</p>



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>it mean every topic, every year? If so, does that make sense? If it is just one time, then it is redundant with R2. Is a long range plan that includes all elements over several years acceptable? Also, if it is training for a new operator, it might not be needed again because it is then performed routinely. This needs clarification.</p> <p style="padding-left: 40px;">In R2, there is a typo, it should say "each of" instead of "each or".</p> <p style="padding-left: 40px;">In section 1.3 Data Retention, the subparagraphs should be numbered 1.3.1, 1.3.2 etc rather than 1.4.1, 1.4.2 etc. In these paragraphs it refers only to compliance audits as the time period for keeping records, we assume this means an on-site compliance audit. Since audit periods can vary, ie 3 - 6 years, plus they can happen at other times depending on conditions, it would be more clear to state the retention time in years. We would suggest 3 years to be an appropriate time frame since on-site compliance audits of the RC, BA and TOP are to be at least every 3 years. Also, in the first paragraph of the section "investigation" should be changed to "compliance violation investigation" to avoid confusion with other types of investigations such as disturbance events analysis etc. And, in the last paragraph the Compliance Enforcement Authority should keep records according to the NERC Rules of Procedure. There is no need to spell it out here since it is already covered in the NERC Rules of Procedure.</p> <p style="padding-left: 40px;">There is not a comment form for PER-004, however a redline is posted as part of the changes in the project. We do have a comment on R2 of PER-004. The last sentence states "The Reliability Coordinator shall ensure protocols are in place to allow Reliability Coordinator operating personnel to have the best available information at all times." There is no consideration to cost in this requirement. "...best available information at all times." is very broad and wide open. Data overload can be a reality, as can a diminishing return on investments to meet a requirement that will have a very small impact on reliability.</p>
	<p><b>Response:</b> The majority of the industry responding to earlier drafts of this Standard requested a longer phase in period. The SPT SDT responded to their comments and changed the phase in period from 24 months to 36 months.</p> <p>The SPT SDT acknowledges your comment concerning Requirement 1 but believes that the present wording provides for sufficient clarity.</p> <p>Requirement 1.4 has been modified to provide further clarity. Requirement 1.4 now reads "Each Reliability Coordinator, Balancing Authority and Transmission Operator shall conduct an "annual" evaluation of the training program established in R1, to identify any needed changes to the training program and shall implement the changes identified".</p> <p>Requirement 1.3 simply states that the training developed must be provided to the System Operators. In the development of your training program each entity will determine the periodicity of when training needs to be conducted.</p> <p>The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p> <p>The SPT SDT acknowledges your comment concerning data retention and has revised this section to more accurately reflect either a three year requirement or the last compliance audit, whichever time frame is the greatest and each of the sub-sections have been removed. The Data Retentions section now reads "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".</p> <p>The SDT acknowledges your comment concerning the Compliance Enforcement Authority's requirement to keep records according to the NERC Rules of</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>Procedure. However, the SDT believes that the paragraph provides clarity for data retention within the standard.</p> <p>The SPT SDT acknowledges your comment concerning PER-004. However, revisions to requirements in other standards, unless specifically associated with this standard, are outside the scope of this Standard Drafting Team.</p>
Ohio Valley Electric Corporation	<p>With the lack of assessment or evaluation of the effectiveness of existing 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.</p>
	<p><b>Response:</b> The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). The majority of training in this standard could meet CEH.</p> <p>The lack of system operator training was a contributing factor in the 2003 Blackout.</p>
Bonneville Power Administration	<p>While agreeing with the proposed Violation Severity Levels, BPA considers the Violation Risk Factor assigned to requirement R1 to be too high. R1 is essentially administrative in nature, and this should be reflected in a VRF rating of Low. There is a tremendous workload involved in developing the training program described by the standard. The 3 year implementation plan proposed by the drafting team is adequate for this task. That said, to implement the training program as described, in a manner that reflects the quality and effectiveness expected by industry participants will require the full 3 years that has been allotted. The implementation time should not be shortened any Further, BPA agrees with the 6 month window for certifying competency in performing a task once a new task has been identified (R2.1). The standard does not provide a window for certifying competency in performing job tasks when a System Operator assumes a new position. BPA suggests providing a 1 year window for System Operators to complete the job task competency verification (R2) once they have assumed a new position. BPA supports a Standard requiring development, delivery, and evaluation of system operator training using a "systematic approach", and applauds the restraint the drafting team has shown by including only the essential elements of a systematic training program. BPA thanks the drafting team for your dedicated concern and efforts to improve our industry by helping entities develop valuable and effective training programs for System Operators.</p>
	<p><b>Response:</b> The SPT SDT believes that based on the existing definitions of the VRFs, the VRFs should not be changed. The analysis of the August 2003 Blackout showed that training, or the lack of training, was a significant factor that contributed to the blackout. The VRF Definitions can be found in the NERC Drafting Team Guidelines at (<a href="ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf">ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf</a>) as well as in the Reliability Standards Development Procedure Manual.</p>
Operating Reliability Working Group (ORWG)	<p>R2 should be corrected to read '...verify each of its System Operator's...'. We feel the VRF for R2 is too high. It should be no higher than medium. As written R3 could be interpreted to require 32 hours of emergency operations training on a simulator. We appreciate the effort by the SDT to incorporate all the suggestions provided by the industry following the last posting. The current standard reflects considerable rewrite and we feel that this proposal is a significant improvement.</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>The SPT SDT feels that the training associated with R2 concerns reliability related tasks which if not provided could result in a significant impact on the BES.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee — to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
LCRA	<p>To review, requiring a list of critical tasks, with no explanation as to what those tasks may be, only ensures that there will be a wide variance across the industry. It is not reasonable to expect that each utility will police itself.</p> <p>Common human nature dictates that individual utilities will pare the list down to whatever they can manage, not an all inclusive list. Were this standard to go into effect as currently written, I suspect utilities with large training staffs would have a large list, while small utilities will create a small list that they can manage. Whether or not an operator can perform the duties associated with his position is already handled by company specific procedures like performance reviews. If an operator is NERC certified has not that process already determined that the operator has a basic level of understanding? What happens if an operator fails one of these critical task evaluations? On the one hand he is NERC certified, yet he cannot perform a critical task. Would that then indicate that the certification process is flawed? What exactly is a critical task? What may seem critical and complex to a newly certified operator is old hat to one with 20 years of experience. Reliability related? Taking that term to its extreme limits, the ability to get in a car and drive to work could be construed as reliability related since if the operator cannot get to work reliability is compromised. Nearly everything a transmission operator does is reliability related. Other than eating lunch I cannot think of one single transmission operator task that is not reliability related in some way or another. Voltage control, switching, EECp, blackstart, etc, etc, etc. The list would simply be unmanageable. If NERC cannot effectively define a critical task in this standard, how can anyone else be expected to do so? What happens on an audit if the auditor shows up and decides the list is not comprehensive? Ultimately there is no definition of a critical task, thus this standard cannot be enforced. What about QSEs, generator operators, and field personnel such as relay technicians? They all have multiple tasks that impact reliability, yet I see no requirements for them. What good is a critical task analysis that only focuses on one group when multiple groups have impacts? What this standard would do is create an administrative monster that only the large training staffs could manage. Smaller utilities, such as my own, would be forced to strip the critical task list down as short as possible. Otherwise it could not be effectively managed. The net result would be something that can be managed for audits, not necessarily something that would do training any good. In fact, coupled with the already burdensome demands of the CE program, this requirement would move many trainers away from contact time to sitting at a computer and administering a critical task list. It comes down to this; What does NERC want me to do with my time? Train operators, or fill out paperwork?</p>
<p><b>Response:</b> As 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</p>	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>position and the specific system for which the list is being developed. The revised Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p> <p>The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). As envisioned, much of the training developed and delivered in accordance with this standard could also be used to meet CEH.</p> <p>Note that the Reliability Standards Work Plan does include a project that will address training of others such as Generator Operators.</p>
Sacramento Municipal Utility District	<p>R# Severe VSL column last row stating: "OR The responsible entity did not include in its emergency training, the use of drills, exercises, and hands on training using simulators." NERC should clarify what is meant by "training using simulators." Is this mandating the use of an OTS?</p> <p>Applicability of this standard should apply to all NERC registration types that impact the BES</p> <p>R2. This requirement should state " shall verify each of its System Operator's capabilities to perform each assigned task identified in R1.1 annually."</p> <p>Minimum competencies should be maintained by the system operator and certified by the registered entity. This standard should mandate the system operator passing an exam/evaluation.</p> <p>R3. This standard should mandate the system operator to pass a written and/or simulation exam to be credited the 32 hours of training</p>
	<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC SC. The SPT SDT has modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The philosophy used to develop this Standard is based on the industry need from the industry approved SAR. The applicability was established during the SAR development stage of this process – and is limited to Reliability Coordinators, Transmission Operators and Balancing Authorities.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>The SPT SDT acknowledges your comment concerning the wording of Requirement 2 but respectfully disagrees. The SPT SDT believes that with the additional training required (i.e., Emergency Operations, CEH, etc.) and the re-assessment of an operator's capabilities when the task list is modified that an initial one time training assessment is sufficient. However, this does not preclude an entity from performing training or verifications outside this Standard.</p> <p>The SPT SDT believes that mandating a System Operator passing an examination for the training material provided would be too prescriptive. The SPT SDT also believes that a Standard should relate what must be done but not how.</p>
Northeast Utilities	<p>Is it correct that this standard does not apply to NERC-certified individuals in non-System Operator roles? (reference PER-003 R1.) e.g. - a System Operator's supervisor.R1.1.1.</p> <p>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 identify new or modified tasks for inclusion in training. One should REVIEW the task list to determine if there is a need to UPDATE - whenever there is a change to the system, procedures, operator tools, etc.</p> <p>TYPO in R2. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall verify each OF (not "or") its System Operator's capabilities to perform each assigned task identified in R1.1 at least one time.</p>
	<p><b>Response:</b> The purpose of this Standard is to ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are competent to perform those reliability-related tasks. This Standard is applicable to all Reliability Coordinators, Balancing Authorities and Transmission Operators, and focuses specifically on the training of system operators. Therefore, if a supervisor is working as a real-time system operator performing reliability-related tasks then the supervisors would be covered by the training in this Standard.</p> <p>The SPT SDT believes that in order to update a task list it first must be reviewed. Therefore the SPT SDT thanks you for your response but does not feel that a change in the wording is necessary.</p> <p>The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p>
NPCC Regional Standards Committee	<p>NPCC members appreciate the efforts of the SDT in creating this latest version. We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process) between RCs and other functional entities that work for the Regional Entity AND those that do not work for the REs. Please provide examples of RCs and functional entities that work for an RE, which, as a standard developer and compliance monitor per the functional model do not have any operating and planning functions that require employing RCs or any other functional entities. However, we do realize that there are REs that are requested by membership in a region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p> <p>In R3 suggest changing drills, exercises and hands on training using simulators to drills, exercises and hands on training using simulators (if available).</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning Reliability Coordinators and other functional entities that work or are employees of a Region and those that do not work for the Regions. This distinction was made due to FERC's requirement of NERC to perform audits of the Reliability Coordinators and any registered entities which work of the Region. In WECC, for example, the Reliability Coordinators are employees of WECC and report to the WECC Director of the Reliability Coordinators. FERC views this as a conflict of interest for the regional entity to perform the compliance audit therefore NERC will perform compliance audits for these exceptions. Having provided the above explanation, the SPT SDT realized the existing statements under Section 1.1 Compliance Enforcement Authority, does not cover all exceptions and the section has been revised to more accurately reflect these exceptions.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>This section now reads "The ERO or its delegate shall serve as the Compliance Enforcement Authority".</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee — to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
SERC System Operator Subcommittee (SOS) of the SERC Operating Committee	<p>Our group supports the use of a Systematic Approach to Training in the design, development and delivery of effective personnel training programs. However, the lack of clarity in the requirement statements is a cause for some concern. Each requirement in this standard should be re-examined to assure clarity of evidence required, adequate definition of terms, and consistency with the associated measures and violation severity levels.</p>
	<p><b>Response:</b> 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. The task list is used to identify the necessary training as stated in R1. A systematic approach to training is used to develop the associated training for each task. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the revised Reference Document for this Standard.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p> <p>The SPT SDT believes that the present revised wording of the Requirements in this Standard provides for sufficient clarity and consistency.</p>
MidAmerican Energy Company	<p>The Requirement numbers are not consistent with the wording in other sections. For example the R2.2 references R1.1 but should reference 2.1 This made commenting very difficult.</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning the inconsistencies described above. This has been corrected.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
Cowlitz County PUD No. 1	Typographical error in Requirement 2: "...shall verify each or its System Operators capability..." should read "...shall verify each of its System Operators capability..."
<p><b>Response:</b> The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p>	
The Detroit Edison Company	<p>We do not agree with complaints being included in section 1.3 Compliance Monitoring and Enforcement Processes. Compliance audits, Self-Certifications, Spot Checking, Compliance Violation Investigations, and Self-Reporting is adequate to ensure entity compliance.</p> <p>We believe Attachment A: Generic Task List is valuable information and should be included in the PER-005 System Operator Training Reference Document as Reference #3.</p>
<p><b>Response:</b> The SPT SDT acknowledges your comment concerning complaints being included in the Compliance Monitoring and Enforcement Process section of the Standard but respectfully disagrees. The list of processes in the standard matches the list of processes identified in Section 3 of the Uniform Compliance Monitoring and Enforcement Program. <a href="ftp://ftp.nerc.com/pub/sys/all_updl/rop/Appendix4C_Uniform_CMEP_10162007.pdf">ftp://ftp.nerc.com/pub/sys/all_updl/rop/Appendix4C_Uniform_CMEP_10162007.pdf</a></p> <p>The Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p>	
SERC OC Standards Review Group (Project 2006-01)	<p>Our group supports the use of a Systematic Approach to Training in the design, development and delivery of effective personnel training programs. However, the lack of clarity in the requirement statements is a cause for some concern. Each requirement in this standard should be re-examined to assure clarity of evidence required, adequate definition of terms, and consistency with the associated measures and violation severity levels.</p> <p>Requirements R1.1 through R1.4 of PER-005 can be interpreted as requiring each entity to develop and deliver its total training program in-house and not allow the use of vendors in developing and implementing its training requirements. For example, R1.3 states, "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall deliver the training established in R1.2.". We suggest that replacing the word "deliver" with "make available" or "ensure delivery of" would clarify this misconception.</p> <p>Finally, in R2 there is a typo: the word "or" should be changed to "of".</p>
<p><b>Response:</b> 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. The task list is used to identify the necessary training as stated in R1. A systematic approach to training is used to develop the associated training for each task. The following are reference documents that can be used in developing a systematic approach to training. These documents are also listed in the revised Reference Document for this Standard.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p>	

Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p> <p>The SPT SDT believes that the present revised wording of the Standard provides for sufficient clarity and consistency.</p> <p>The SPT SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p>
<p>American Transmission Company</p>	<p>Requirement 1: ? ? The following language should be removed from the requirement 1. ? ? "to establish a new or modify an existing training program(s)" ? ? It's our position that the language does not provide any additional clarity but adds confusion to the requirement. ATC believes that the language makes sense for the short term, (FERC approval followed by implementation period) but in the long term this information is unnecessary. Once an entity has a SAT the language in question would require an entity to modify or develop a new program even if neither is required.</p> <p>? ? Proposed change: ? ? "Each RC, BA and TOP shall use a systematic approach to training for the Bulk Electric System (BES) company-specific reliability-related tasks performed by its System Operators." ? ? ATC believes that our suggested modification accomplishes the intent of the SDT and addresses our concern with the long-term implementation of this standard. ?</p> <p>R1.1? ? The word "create" should be replaced with "document". ? ? This change does not alter the intent of the Requirement but simple states what the entities needs to have. ? ? Proposed change: ? ? Each RC, BA and TOP shall document a list of BES company-specific reliability-related tasks performed by its System Operators. ? ? Once the initial list is developed you will no longer create a list, but the proposed language would have entities re-create the list annually. ? ?</p> <p>R1.1.1? ? The requirement should be modified to only require annual reviews. Updates to the list are dependant on the company and are not a NERC issue. ? ? Proposed change: ? ? Each RC, BA and TOP shall annually review its list of BES company-specific reliability-related tasks performed by its System Operators. ? ? New Requirement 1.1.2? ? Each RC, BA and TOP shall identify new or modified tasks during the annual review.</p> <p>? ? R3: ? ? The "12 months" should be replaced with "annual". If the SDT does not agree with the change then they need to confirm how the 12 months is going to be determined. Ultimately ATC is concerned that the 12 months could be interpreted to mean a rolling 12-month period which would make compliance with this standard extremely difficult as it would essentially require a company to ensure that each of its Scots completed 32 hours of emergency training within any 12-month sliding window during the year; i.e. at an average rate of 2.67 hours per month. Typically, this is not how the emergency hour training is completed. Rather, it is completed in ?lumps.? ATC understands that the 12-month concept was introduced to account for new operating personnel. With that in mind, ATC proposes that the Standard call out the provision to pro-rate training specifically as detailed below. ? ? Proposed language: ? ? On an annual basis, each RC, BA and TOP shall provide each of its System Operators with 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics (which includes system restoration). For each new System Operator, the required number of hours of emergency operations training shall be prorated to the nearest whole number of hours based upon the number of full months worked during that calendar year.</p>



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>(Examples of training: drills, exercises, and hands on training using simulators)? ? The additional changes are to: ? Clarify the prorated training requirement; i.e. an operator beginning work on Dec. 31st would have an emergency hour training requirement of 0 hours, an operator beginning work on June 15th would have an emergency hour training requirement of 16 hours and an operator beginning work on Jan. 15th would have an emergency hour training requirement of 30 hours for that calendar year.? 2. Clearly identify the list as examples that can be used but not methods that must be used.</p> <p><b>Response:</b> In FERC Order 693 the Commission (FERC) directed NERC to submit a modification to PER-002-0 that "uses the Systematic Approach to Training (SAT) methodology". The intent of the Standard is to require all entities to use a systematic approach to training for either new or existing training programs. The effective date of this standard allows time to modify existing or implement new training programs.</p> <p>The SPT SDT acknowledges your comment regarding the re-wording of Requirement 1 and has modified Requirement 1. Requirement 1 now reads:</p> <p style="padding-left: 40px;">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.</p> <p>With regards to your comment concerning Requirement 1.1, there is no language in R1.1 that identifies a need to recreate the task list on an annual basis.</p> <p>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. This revision was incorporated into Draft 3 of the Standard.</p> <p>The SPT SDT has modified Requirement and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 40px;">R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Niagara Mohawk (DBA National Grid)	<p>We propose the following minor edits for clarification. R1.1.1 change to "...shall review and update as necessary its list of BES company specific reliability related tasks...". The task should be reviewed annually and then updated as necessary. In some cases an update may not be needed.</p> <p>R3 Replace "...using training, drills, exercises, and hands on training using simulators" with "using various methods of training such as drills, exercises, classroom presentations, or hands on training using simulators". This reads better since drills, etc. are all forms of training. In addition these need to be examples of training methods not required training methods since some entities do not have training simulators, thus the addition of "or".</p> <p>In addition, we do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process) between RCs and other functional entities that work for the Regional Entity AND those that do not work for</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>the REs. Please provide examples of RCs and functional entities that work for an RE, which, as a standard developer and compliance monitor per the functional model do not have any operating and planning functions that require employing RCs or any other functional entities. However, we do realize that there are REs that are requested by membership in a region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p>
<p><b>Response:</b> The SPT SDT acknowledges your comment concerning Requirement 1.1.1 but respectfully disagrees. The SDT believes that the present wording provides sufficient clarity and the suggested changes would not significantly improve or alter the desired outcome of the requirement.</p>	
<p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p>	
<p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p>	
<p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>	
<p>The SPT SDT acknowledges your comment concerning Reliability Coordinators and other functional entities that work or are employees of a Region and those that do not work for the Regions. This distinction was made due to FERC's requirement of NERC to perform audits of the Reliability Coordinators and any registered entities that work for the Region. One example is WECC - where the Reliability Coordinators are employees of WECC and report to the WECC Director of the Reliability Coordinators. For all of these situations, FERC views this as a conflict of interest for the regional entity to perform the compliance audit therefore NERC will perform compliance audits for these exceptions.</p>	
<p>WECC Reliability Coordination Comments Work Group (RCCWG)</p>	<p>The WECC RCCWG believes that R2 in PER-004-2 is mis-placed and does not belong in a standard that covers staffing. Specific requirements for SOLs, IROs, and inter-tie facility limits belong in IRO standards, not in a PER standard.</p>
<p><b>Response:</b> The SPT SDT acknowledges your comment concerning PER-004. However, revisions to requirements in other standards, unless specifically addressed within this standard, are outside the scope of this Standard Drafting Team.</p>	
<p>PSEI</p>	<p>It appears that the ideas going into this standard are designed such that it can only be achieved by large organizations with not only a trainer, but training staff and lots of resources. Putting requirements in place that demand all organizations meet the same expectations as the larger ones is unfair, unrealistic and removes any flexibility small utilities have. If there is such a need for the SAT to be in place, use it in conjunction with the System Operator Certification program. There is already a detailed process in place for this and allows smaller utilities to have options other than hiring more staff or requiring the purchase of simulators.</p>
<p><b>Response:</b> The SPT SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>The NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). As envisioned, much of the training developed and delivered in accordance with this standard could also be used to meet CEH.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 40px;">R3.1 "Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
<p>Southwest Power Pool - Operations Training Working Group</p>	<p>R1.2 - The wording of R1.2 should refer to "utilizing designed training materials" with learning objectives based on the task list, rather than "designing training materials" with learning objectives based on the task list. Some training is purchased from vendors to satisfy training need rather than designing the training in-house. We suggest the wording be modified as follows: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall utilize training materials designed and developed with learning objectives that are based on the task list created in R1.1."</p> <p>R2 Risk Factor - The "Risk Factor" should be "Medium" in-line with the risk factor of R1. The risk factor to verify performance of the reliability tasks (R2) should not be higher than the risk factor for identifying the reliability tasks (R1).</p> <p>R3 - This requirement requires all entities large or small to have a simulator or buy hands on simulator exercises from a vendor "that applies to their system". We believe the word simulator should be changed to "simulation" as follows: "?.using training, drills, exercises, and hands on training using simulations". The related VSLs would need the word changed also. If the intent of the standard is for the individual entity to purchase a computerized simulator package, it could be quite burdensome on the company.</p> <p>R3.1 - To assure R3.1 is in aligned with our comments on R1.2, based on the fact that some training may be purchased training delivered by a vendor, we suggest rewording of R3.1. Change the word "deliver" to the word "utilize" as follows: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall utilize the training established in R1.2."</p> <p>A suggested Reliability Task List should be included in the reference material to the standard as a base guideline for entities to build their task list.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>Purpose: We feel the words "competent" and "competency" in the purpose statement should be changed to "capable" and "capability" to reflect the wording in M2.</p> <p>We appreciate the effort by the SDT to incorporate all the suggestions provided by the industry following the last posting. The current standard reflects considerable rewrite and we feel that this proposal is a significant improvement.</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning Requirement 1.2 but respectfully disagrees. The SDT believes that the present wording provides sufficient clarity and the suggested changes would not significantly improve or alter the desired outcome of the requirement. The SDT also does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The SPT SDT believes that based on the existing definitions of the VRFs, the VRFs should not be changed. The analysis of the August 2003 Blackout showed that training, or the lack of training, was a significant factor that contributed to the blackout. The VRF Definitions can be found in the NERC Drafting Team Guidelines at (<a href="ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf">ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf</a>) as well as in the Reliability Standards Development Procedure Manual.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 40px;">R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The revised Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p> <p>The SPT SDT acknowledges your comment regarding the use of the terms competent and competency but does not believe that changing the words would significantly improve or alter the desired outcome of the requirement. In addition, the "Purpose" section of this standard is taken from the industry approved SAR.</p>
CECD	<p>It is not appropriate to require all BAs and TOPs to have hands on simulator training. FERC's directives indicated that "the ERO needed to develop a requirement for the use of simulators dependent on the entity's role and size" and that it would be appropriate to limit such a requirement to RCs, TOPs, and BAs that have operational control over a significant portion of load and generation."</p> <p>There is an error in R2, second line "each or its System Operator's". Delete "or its".</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	R3. The phrase "that reflects emergency operations topics" should be modified to state "on emergency operation topics" or "that reflects emergency operating conditions."
	<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p> <p>The SPT SDT acknowledges your comment concerning Requirement 3 but respectfully disagrees. The SDT believes that the present wording provides sufficient clarity and the suggested changes would not significantly improve or alter the desired outcome of the requirement.</p>
PJM Interconnection, LLC	Since one of the elements of the SAT methodology is to "Evaluate not only worker performance of the objectives, but also the ability of the curriculum to meet the stated objectives", R2 is unnecessary, as R1 already requires the use of the SAT methodology. This requirement should be deleted.
	<b>Response:</b> The SPT SDT agrees with you that the evaluation process addresses both elements in a systematic approach to training. However, based on previous comments from the industry, the SDT felt it was important to delineate the difference between individual performance and the evaluation of the curriculum.
Pacific Gas and Electric Company	In reviewing the purpose statement the words "competent" and "competency" do not align with wording in the requirements or the measures. We believe competency of an individual is directly reflected in their performance and therefore performance is governed by their supervisor or manager. In many instances trainers provide training to individuals on a limited basis throughout the year, of which, during that time the individual's performance is assessed for his capability to perform a task. We suggest changing the purpose statement to the following: "To ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are capable to perform those reliability-related tasks." "The capability of the System Operators is critical to the reliability of the North American Bulk Electric System."
	<b>Response:</b> The SPT SDT acknowledges your comment regarding the use of the terms competent and competency but does not believe that changing the words would significantly improve or alter the desired outcome of the requirement. In addition, the "Purpose" section of this standard is taken from the industry approved SAR.
MRO NERC Standards Review Subcommittee	<p>In R2, the current language could be read that the System Operator needs to be capable of performing the task at least one time, but the intent is to perform the verification at least one time. This can be clarified by rearranging the sentence to be "?shall verify at least one time that each of its System Operator's are capable of performing each task identified in R1.1."</p> <p>R3, There seems to be some confusion in the industry about what would be classified as a simulator per this requirement. The</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>definition of the term simulator can range from a simulator attached to the EMS, a custom built simulator to represent one's utility structure, a generic simulator similar to the one that EPRI had offered for no cost in the past, table top simulations or even computer class simulations that qualify as simulation hours in the NERC CEH program. In paragraph 1391 of FERC order 693, FERC recognizes the fact that it would be impractical for small entities to develop and maintain full-scale simulators and suggests that the small entities use generic simulators or realistic table top exercises in there place. FERC goes on in paragraph 1391 to direct the ERO "to develop a requirement for the use of simulators dependent on the entity's role and size". The MRO requests that the SDT define what it means by 'simulator' and "who should use this simulator" and revise the requirement as appropriate to meet the FERC 693 directives.</p> <p>R3, The Requirement states '.....32 hours of emergency operations training applicable to its organization that reflects emergency operations topics (which includes system restoration) using training, drills, exercises, and hands on training using simulators.' Is this requirement setup to require each operator to have at least some simulator training every 12 months, or is the requirement only providing a list of training options? The MRO requests clarification on this requirement.</p> <p>Data Retention: Does 1.4.4 say that if someone is found non-compliant they only have to keep records until they are found to be compliant? This goes against the previous three paragraphs. This could be corrected if "or since the last compliance audit, which ever is greater." is added to the end of the sentence.?</p> <p>Risk Factors: ? ? R1, should be changed to "Lower Risk Factor", since it is administrative in nature, per NERC Reliability Standards Development Procedure. If an entity had the first four steps to the SAT process but an incomplete Evaluation, this would not "affect the electrical state or capability of the bulk power system".</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning Requirement 2 but respectfully disagrees. The SDT believes that the present wording provides sufficient clarity and the suggested changes would not significantly improve or alter the desired outcome of the requirement.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs to require the use of simulators by reliability coordinators, transmission operators and balancing authorities that have operational control over a significant potion of load and generation. . The SPT SDT has modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The SPT SDT acknowledges your comment concerning data retention and has revised this section to more accurately reflect either a three year requirement or the last compliance audit, whichever time frame is the greatest and each of the sub-sections have been removed. The Data Retentions section now reads "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</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>of time as part of an investigation”.</p> <p>The SPT SDT believes that based on the existing definitions of the VRFs, the VRFs should not be changed. The analysis of the August 2003 Blackout showed that training, or the lack of training, was a significant factor that contributed to the blackout. The VRF Definitions can be found in the NERC Drafting Team Guidelines at (<a href="ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf">ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf</a>) as well as in the Reliability Standards Development Procedure Manual.</p>
Public Service Commission of South Carolina	<p>On Page 1 of 2 of Implementation Plan for PER-005-1 - System Personnel Training, strike the word "months" under PER-005-1 Requirements in the box for R3.</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment and has made the necessary modifications.</p>
WECC Operations Training Subcommittee	<p>The definition of Bulk Power vs. Bulk Electric System needs to be clearly defined in order to be utilized as a basis for the standards with respect to systems that the RRO has defined as not affecting the BES.</p>
	<p><b>Response:</b> The defining of the term Bulk Electric System (BES) is outside the scope of this Drafting Team. The definition is found in either the NERC Glossary or is defined by the individual Region.</p>
ISO New England Inc.	<p>We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process) between RCs and other functional entities that work for the Regional Entity AND those that do not work for the REs. Please provide examples of RCs and functional entities that work for an RE, which, as a standard developer and compliance monitor per the functional model do not have any operating and planning functions that require employing RCs or any other functional entities. In R3 suggest changing drills, exercises and hands on training using simulators to drills, exercises and hands on training using simulators (if available).</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning Reliability Coordinators and other functional entities that work or are employees of a Region and those that do not work for the Regions. This distinction was made due to FERC's requirement of NERC to perform audits of any registered entities which work for the Region. In WECC, for example, the Reliability Coordinators are employees of WECC and report to the WECC Director of the Reliability Coordinators. For all of these situations, FERC views this as a conflict of interest for the regional entity to perform the compliance audit therefore NERC will perform compliance audits for these exceptions.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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.</p> <p style="padding-left: 40px;">R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Entergy Services, Inc. System Planning & Operations (Generation & Marketing)	<p>It appears that only the Requirement (R1, R2, R3) have VRFs and VSLs. Do the VRFs and VSLs apply to the sub-requirements and can an entity be penalized for the requirement and the sub-requirement? (e.g. if an entity does not create the list required in R1.1 will they receive a penalty for R1 and R1.1?)Regarding PER-004-2 R2 - the requirement does not belong in a RC "staffing" standard. This general statement requirement is adequately covered in the IRO-005 standard and should be deleted as part of</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	this revision or a future revision/review of IRO-005.
	<p><b>Response:</b> The present methodology being used in the Standard Drafting Process requires VRFs to be associated with a Requirement. Sub-requirements will not have an associated VRF. VSLs are assigned to each Requirement and cover the sub-requirements. The Sanctions Guidelines Section 3.10 includes the following: Strictly speaking, NERC or the regional entity can determine and levy a separate penalty or sanction, or direct remedial action, upon a violator for each individual violation. However, in instances of multiple violations related to a single act or common incidence of noncompliance, NERC or the regional entity will generally determine and issue a single aggregate penalty, sanction, or remedial action directive bearing reasonable relationship to the aggregate of the related violations. The penalty, sanction, or remedial action will not be that determined individually for the least serious of the violations; it will generally be at least as large or expansive as what would be called for individually for the most serious of the violations.</p> <p>As stated in the Implementation Plan associated with this Standard, PER-004-2 Requirement 2 will be retired when this Standard becomes effective.</p>
AEP	<p>R1.2 - The wording of R1.2 should refer to "utilizing designed training materials" with learning objectives based on the task list, rather than "designing training materials" with learning objectives based on the task list. Some training is purchased from vendors to satisfy training need rather than designing the training in-house. We suggest the wording be modified as follows: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall utilize training materials designed and developed with learning objectives that are based on the task list created in R1.1.</p> <p>"R2 Risk Factor - The "Risk Factor" should be "Medium" in-line with the risk factor of R1. The risk factor to verify performance of the reliability tasks (R2) should not be higher than the risk factor for identifying the reliability tasks (R1).</p> <p>R2.1 - We believe this requirement should specify 12months (rather than 6 months) for performance verification following identification of new or modified tasks. Often, tasks change or are modified gradually do to operator adaptation of influencing parameters. Therefore operators often adapt to the task modification without formal training, and well before the task is updated in the list. Annual review of the task list (specified in R1.1.1) will likely set the stage for the needed annual training on the tasks, whether modified, new, or existing tasks just needing improvement in operator performance. The continuing education training plan is typically scheduled annually targeting operator training needs including certification maintenance training and emergency training. Consequently it would be best to schedule new and modified task training along with the operator's annually scheduled CE training. Specifically R2.1 should read: "Within twelve months of a modification of the BES company-specific reliability-related tasks, each Reliability Coordinator, Balancing Authority, and Transmission Operator shall verify each of its System Operator's capabilities to perform the new or modified tasks".</p> <p>R3 - This requirement could be interpreted to require all entities large or small to have a simulator or buy hands on simulator exercises from a vendor "that applies to their system". We believe the word simulator should be changed to "simulation" as follows: "???.using training, drills, exercises, and hands on training using simulations". The related VSLs would need the word changed also.</p> <p>R3.1 - To assure R3.1 is in aligned with our comments on R1.2, based on the fact that some training may be purchased training delivered by a vendor, we suggest rewording of R3.1 change the word "deliver" to the word "utilize" as follows: "Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall utilize the training established in R1.2.</p> <p>"Purpose - In item 3 of the Introduction to the Standard "Purpose", the word "competent" should be changed to "capable" to align with Measurement M2. Specifically ?. "To ensure that System Operators performing real-time, reliability-related tasks on the</p>



## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>North American Bulk Electric System (BES) are "capable" to perform those reliability related tasks.</p> <p>The Reliability Task List (previously attached to draft 2) should be included with the reference material that can be referenced for the standard, such as along with the references for the systematic approach to training (ADDIE, DOE references, etc.).</p> <p>We appreciate the effort by the SDT to incorporate all the suggestions provided by the industry following the last posting. The current standard reflects considerable rewrite and we feel that this proposal is a significant improvement.</p>
<p><b>Response:</b> The SPT SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them.</p>	
<p>The SPT SDT believes that based on the existing definitions of the VRFs, the VRFs should not be changed. The analysis of the August 2003 Blackout showed that training, or the lack of training, was a significant factor that contributed to the blackout. The VRF Definitions can be found in the NERC Drafting Team Guidelines at (<a href="ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf">ftp://www.nerc.com/pub/sys/all_updl/standards/dt/Drafting_Team_Guidelines_01Jul07.pdf</a>) as well as in the Reliability Standards Development Procedure Manual.</p>	
<p>The SPT SDT acknowledges your comment concerning training associated with an update of the training program but respectfully disagrees. The SDT believes that an update of the training program will typically will require modifications or additions of a few items and is not as extensive as implementing a new training program. This is something that can be accomplished within a six month window. In addition, the NERC Certification Process or NERC Continuing Education (CE) Program is not a part of this standard. The standard applies to all reliability-related training, not just NERC CE approved activities. An entity can use the CE Program to meet this standard if the CE training meets the requirements in this standard (i.e., company specific reliability-related tasks). The majority of training in this standard could meet CEH.</p>	
<p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p>	
<p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p>	
<p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>	
<p>The SPT SDT acknowledges your comment regarding the use of the terms competent and competency but does not believe that changing the words would significantly improve or alter the desired outcome of the requirement. In addition, the "Purpose" section of this standard is taken from the industry approved SAR.</p>	
<p>The revised Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p>	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
ERCOT Inc.	<p>The requirements say to create a task list and develop objectives and materials based on that list. This could be burdensome, and doesn't have to happen if the SAT process is followed. Objectives and materials should only be required on tasks identified for training, before that training is conducted, not every task performed before any training is conducted. In meeting R2, the entity may determine that their operators need no training on the tasks in their list.</p> <p>R1.2 (which we recommend goes away) requires development of objectives and training materials regardless of need.</p> <p>R1.3 (which we also recommend go away) requires they deliver training on those objectives and materials. Therefore there actually would be a justifiable argument that under almost any SAT process, R1.2 and R1.3 could be considered to be an unnecessary and unreasonable burden until an organization would have to replace an operator with an ignorant, off-the-street individual; an unlikely scenario for many. Arbitrarily creating such requirements flies in the face of any SAT process. Even if the entity changes something about a task(s), it is very possible that R2.1 can be accomplished with no formal training.</p> <p>On R3: If the SAT process is believed, then the 32 hour emergency training requirement is bogus. The 32 hour requirement was instigated as an interim act in the absence of an organizational SAT process for System Operators. If NERC is going to continue to specify topics and times, then don't preen and pretend to advocate the SAT process. The old guide has a list of topics, and the PSS can certainly apply their expertise to assign times; this would simplify the process for the whole industry. Of course this would be mostly for show, but then so is the 32 hour requirement.</p> <p>Now let's look at the Purpose of PER-005. That should be changed. It should read: "To ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are competent." The words "The competency of System Operators is critical to the reliability of the North American Bulk Electric System." is an observation, not a purpose.</p>
	<p><b>Response:</b> The SPT SDT agrees that a systematic approach to training does not require the development of a task list. The task list is a tool that can be used to identify the necessary training as stated in R1. A systematic approach to training is then used to develop the associated training for each task. This is needed to cover new hires. It would be difficult to determine, in advance, on which tasks a new hire will need to be trained.</p> <p>The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p> <p>The revised Reference Document associated with the Standard details some topics that could be considered and included in a task list.</p> <p>The SPT SDT acknowledges your comment regarding the Purpose section of the standard. The "Purpose" section of this standard is taken from the industry approved SAR.</p>
We Energies	<p>R2: Typographical error "...shall verify each OF its System Operator's..."</p> <p>R3: The phrase "...using training, drills, exercises, and hands on training using simulators." is reasonably interpreted as "...using training and drills and exercises and hands on training using simulators." This phrase needs to be reworded.</p> <p>Data Retention 1.4.4: 1.4.1, 1.4.2, and 1.4.3 reference a requirement and measure. Should this one also reference requirements and measures?</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning the typographical error in Requirement 2. This has been corrected.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p style="padding-left: 40px;">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”;</p> <p style="padding-left: 40px;">R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The SPT SDT acknowledges your comment concerning the Data Retention section of the standard. The Data Retention section has been modified to provide clarity.</p>
Santee Cooper	Clarity should be provided in the requirements that training can be provided through the use of vendors or in-house as long as the SAT process is utilized. In addition, the training standard needs to be written such that a smaller entity is able to comply with the standard without employing the use of vendors or consultants.
	<p><b>Response:</b> The SPT SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>
BCTC	The definition of Bulk Power System vs. Bulk Electric System needs to be clearly defined in order to be utilized as a basis for the standards. Until the BES vs. BPS issue is cleared up this should not be used as a basis for Standards.
	<p><b>Response:</b> The defining of the term Bulk Electric System (BES) is outside the scope of this Drafting Team – and since the standard only uses the term, “Bulk Electric System” there should be no confusion in this standard. The definition of BES is found in the NERC Glossary and is defined by the individual Region.</p>
Pepco Holdings, Inc. - Affiliates	<p>We are concerned that this standard does not address the specific directions of FERC Order 693 to include local control centers that can take independent actions, in this standard. We think the standard should be revised to include a new Requirement 4:</p> <p style="padding-left: 40px;">R4. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that delegates tasks for which it is responsible to another entity shall develop or modify an existing training program using a systematic approach to training for the set of tasks it has delegated to other entities.[Risk Factor: Medium] [Time Horizon: Long-term Planning]</p> <p style="padding-left: 80px;">R4.1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator who has developed a training program for its delegated tasks shall ensure through a monitoring program that the training program for the delegated tasks meets the equivalent requirements of R2 and R3 of this standard</p> <p style="padding-left: 80px;">R4.2 Each Reliability Coordinator, Balancing Authority, and Transmission Operator who has delegated tasks for which it responsible shall maintain a list of the entities to whom tasks have been delegated and of the tasks that have been delegated and provide the list to its Regional Entity.</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>M4. Each RC, BA, and TOP shall have available a training program for its delegated tasks developed through a systematic approach to training.</p> <p>M4.1 Each RC, BA and TOP shall have evidence that the training program for its delegated tasks meets the equivalent of R2 and R3.</p> <p>M4.2 Each RC, BA and TOP shall have evidence that it provided to its Regional Entity the list of the entities to which it has delegated tasks and the delegated tasks.</p>
<p><b>Response:</b> In previous drafts of this standard the industry has consistently agreed that Local Control Centers should not be applicable to this Standard until a universal definition of the term "Local Control Center" has been established. The SPT SDT has developed this Standard based on the Functional Model Version 3 and the current registration process.</p> <p>Additionally, the philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>	
Baltimore Gas & Electric	<p>We recommend that NERC provide industry training on the development of a training program and include detailed instructions on "a systematic approach to training", how to compile a "list of BES company-specific reliability-related tasks", explain expectable verification methods for "System Operator's capabilities to perform each assigned task", etc.</p>
<p><b>Response:</b> The SPT SDT has modified the Implementation Plan to include industry training on the use of a systematic approach to training. Additional information can be found in the revised Reference Document associated with this Standard and through the following links.</p> <p><b>(1) DOE-HDBK-1078-94, A Systematic Approach to Training</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1078/hdbk1078.pdf</a></p> <p><b>(2) DOE-HDBK-1074-95, January 1995, Alternative Systematic Approaches to Training, U.S. Department of Energy, Washington, D.C. 20585 FSC 6910</b>  <a href="http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html">http://www.hss.energy.gov/NuclearSafety/techstds/standard/hdbk1074/hdb1074.html</a></p> <p><b>(3) ADDIE – 1975, Florida State University</b>  <a href="http://www.nwlink.com/~donclark/history_isd/addie.html">http://www.nwlink.com/~donclark/history_isd/addie.html</a></p> <p><b>(4) DOE Standard - Table-Top Needs Analysis DOE-HDBK-1103-96</b>  <a href="http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf">http://hss.energy.gov/NuclearSafety/techstds/standard/hdbk1103/hdbk1103.pdf</a></p>	
New York Independent System Operator	<p>Regarding R3 "using training, drills, exercises and hands-on training?" can actually be just "training". "Drills, exercises and hands on" are methods of training that can be used and remove the corresponding Severe VSL.</p> <p>Replace six months with 30 days.</p>
<p><b>Response:</b> The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p>	

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p> <p>The determination of the Violation severity Level (VSL) is based on the Violation Severity Levels Development Guidelines Criteria. The VSL Guidelines Criteria document is a tool used in developing VSLs to provide a more consistent application when determining VSLs. This document is a product developed jointly by the stakeholder drafting teams and SMEs, along with the NERC Standards and Compliance Monitoring and Enforcement Program personnel. The SPT SDT has considered your comment, but the VSL will remain as presently written.</p> <p>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.</p>
FirstEnergy	<p>FE has the following additional comments/suggestions: R3 - The last part of this requirement, "(which includes system restoration) using training, drills, exercises, and hands on training using simulators.", may be both confusing and not all inclusive. The following is an explanation of our concerns:(a) The phrase in parenthesis "which includes system restoration" seems to only capture one of the several important emergency operations topics. We feel that it should either be removed, or expanded to include the other important topics which include "Capacity and Energy Emergencies" and "Load shedding".</p> <p>(b) The phrase "using training, drills, exercises, and hands on training using simulators" may be confusing and a couple of the terms are not clearly defined. We are not sure of the meaning and differences in the terms "drills" and "exercises". At the very least, we believe these terms could be combined into one subset of the required training. Also, for better clarity, we think these subsets of the training should be bulleted under R3. We suggest rewording R3 as follows: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 using all of the following [Risk Factor: Medium] [Time Horizon: Long-term Planning]:- classroom training- drills and/or exercises- hands on training using simulators.</p>
	<p><b>Response:</b> The SPT SDT is not targeting just system restoration in Requirement 3. There are other topics that could be used but the training must include system restoration. Emergency operation training topics, that could be included, are also listed in the revised Reference Document associated with this Standard.</p> <p>The SPT SDT has modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with</p>

## Consideration of Comments on 3rd Draft of System Personnel Training Standard

Organization	Question 5 Comments:
	<p>established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Duke Energy Corporation	<p>Requirements of this standard should be revised to reflect that training may be developed and delivered by a third party under contract.</p>
	<p><b>Response:</b> The SPT SDT does not believe that the Standard, as written, precludes the use of contractors for training purposes. A contractor hired to perform these activities performs under the auspices of the entity who hires them. The philosophy used to develop this Standard is based on the industry need from the industry approved SAR.</p>
Ontario IESO	<p>(1) We do not understand the distinctions made (under the Compliance Enforcement Authority in the Compliance Monitoring Process) between RCs and other functional entities that work for the Regional Entity AND those that do not work for the REs. Please provide examples of RCs and functional entities that work for an RE, which, as a standard developer and compliance monitor per the functional model do not have any operating and planning functions that require employing RCs or any other functional entities. However, we do realize that there are REs that are requested by membership in a region through a contractual agreement to perform the RC function for them. In this case, it is the RE that is by contractual arrangement to operate the RC on the membership's behalf, not an employment of an RC by an RE (i.e. an RC working for an RE). If the SDT is referring to this type of set up, please revise the language accordingly.</p>
	<p><b>Response:</b> The SPT SDT acknowledges your comment concerning Reliability Coordinators and other functional entities that work or are employees of a Region and those that do not work for the Regions. This distinction was made due to FERC's requirement of NERC to perform audits of any registered entities which work of the Region. In WECC, for example the Reliability Coordinators are employees of WECC and report to the WECC Director of the Reliability Coordinators. For all of these situations, FERC views this as a conflict of interest for the regional entity to perform the compliance audit therefore NERC will perform compliance audits for these exceptions.</p> <p>The SPT SDT is responding to directives included in FERC Order 693 as directed by the NERC Standards Committee - - to comply with one of the directives, the standard needs 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 modified Requirement 3 and added Requirement 3.1 to provide clarity. Requirement 3 and Requirement 3.1 now read:</p> <p>R3: At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.</p> <p>R3.1 Each Reliability Coordinator, Balancing Authority and Transmission Operator that has operational or direct control over Facilities with established IROLs or have established operating guides or protection systems to mitigate IROL violations shall provide each system operator with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES during normal and emergency conditions.</p>
Allegheny Power	No Additional comments