NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Comment Report for 2nd Draft of Standards for System Restoration and Blackstart (Project 2006-03)

The System Restoration and Blackstart Standard Drafting Team thanks all commenters who submitted comments on the 2nd draft of the SRB Standard. This standard was posted for a 30-day public comment period from January 7 through February 5, 2008. The standard drafting team asked stakeholders to provide feedback on the standard through a special Standard Comment Form. There were 44 sets of comments, including comments from more than 130 different people from more than 60 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

Based on the comments received, and due to the fact that compliance elements are just being added, the drafting team is recommending that the standards be posted for a third time. Major changes to the standards include the change to EOP-006-2 to allow for RC coordination with and without Blackstart Resources, reducing the training burden for field switching personnel and Generator Operator personnel, and the Implementation Plan has been completely re-written to emphasize milestones and an orderly transition. Changes to the third posting include the following specific text:

- EOP-005-2: Heading, Definition, Purpose, R1.1, R1.6 (deleted), R2, R3, R6, R6.1, R6.2, R7.2 (deleted), R7.3, R8, R8 (VRF), R9.2.1, R9.2.2, R11, R11 (Time Horizon), R12, R14, R14 (VRF), R15 (VRF), R16, and R18.
- EOP-006-2: Title, Purpose, R1, R1.6 (deleted), R2, R3, R6, R7, R7.1, R8, R8.1, R9, R10, R10.3, M7, M9, and M11.

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 SAR can be viewed in their original format at:

http://www.nerc.com/~filez/standards/System_Restoration_Blackstart.html

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

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

The Industry Segments are:

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

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
1.	Scott Lockwood (G13)	AEP	✓		✓		✓					
2.	Anita Lee (G5)	AESO		✓								
3.	Kirit S. Shah (I) (G6)	Ameren	✓		✓		✓	✓				
4.	Thad K. Ness	American Electric Power	✓		✓		✓	✓				
5.	Jason Shaver	American Transmission Co. LLC	✓									
6.	Dave Rudolph (G7)	BEPC	✓		✓		✓	✓				
7.	James Burns/Brian Tuck	Bonneville Power Administration	✓		✓		✓	✓				
8.	Brent Kingsford (G5)	California ISO		✓								
9.	John Jonte	CenterPoint Energy	✓									
10.	Paul Lampe (G13)	City of Independence	✓		✓		✓					
11.	Alan Gale (G3)	City of Tallahassee					✓					
12.	Danny McDaniel (G13)	CLECO	✓		✓		✓					
13.	Paul Bleuss (G14)	CMRC										✓
14.	Greg Tillitson (G14)	CMRC										✓
15.	Edwin Thompson (I) (G8)	Con Edison	✓		✓			✓				
16.	J. Andrew Dodge/William Keagle/Ed Carmen	Constellation	✓									
17.	Mark Paschke	Consumers Energy Company			✓	✓	✓					
18.	Jeanne Kurzynowski (G6)	Consumers Energy Company			✓	✓	✓					
19.	Roy Beger (G1)	Dominion Resources Services Inc.					✓					
20.	Lou Nunez (G1)	Dominion Resources					✓					

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
		Services Inc.										
21.	Ronald E Hart (G1)	Dominion Resources Services Inc.					✓					
22.	Mike Garton (G1)	Dominion Resources Services Inc.					✓					
23.	Jalil Babik (G1)	Dominion Resources Services, Inc.					✓					
24.	Louis Slade (G1)	Dominion Resources Services, Inc.					✓					
25.	Ayad Al-Hamdani (G1)	Dominion Resources Services, Inc.					✓					
26.	Harold Adams (G1)	Dominion Resources Services, Inc.					✓					
27.	Jack Kerr	Dominion Virginia Power	✓									
28.	Gregory D. Rowland	Duke Energy	✓		✓							
29.	Greg Mason (G6)	Dynegy					✓					
30.	Edward J. Davis (1)	Entergy Services, Inc.	✓									
31.	William L. Franklin (2)	Entergy Services, Inc.						✓				
32.	Steve Myers (G5)	ERCOT		✓								
33.	Chris Scanlon	Exelon Corp.	✓									
34.	Sam Ciccone	FirstEnergy Corp.	✓		✓		✓	✓				
35.	Doug Hohlbaugh (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
36.	Dave Folk (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
37.	Jerry Sanicky (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
38.	John Reed (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
39.	John Wenrich (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
40.	Dave Huff (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
41.	Ken Dresner (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
42.	Ed Baznik (G2)	FirstEnergy Corp.	✓		✓		✓	✓				
43.	Eric Senkowicz	FRCC										✓
44.	Joseph Knight (G7)	GRE	✓		✓		✓	✓				
45.	Alessia Dawes	Hydro One Networks, Inc.	✓		✓							
46.	Chris Cooper (G4)	Hydro One Networks, Inc.	✓									
47.	David Kiguel (G4) (G8)	Hydro One Networks, Inc.	✓									
48.	Roger Champagne (G8)	Hydro Québec TransÉnergie	✓									
49.	Sylvain Clermont (G8)	Hydro Québec TransÉnergie	✓									
50.	Ron Falsetti (I)	IESO		✓								

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
	(G5)											
51.	Biju Gopi (G8)	IESO		✓								
52.	Matt Goldberg (G5)	ISO New England, Inc.		✓								
53.	Kathleen M. Goodman (I) (G8)	ISO New England, Inc.		✓								
54.	Charles Yeung (G5)	ISO/RTO Council		✓								
55.	Jim Cyrulewski (G6)	JDRJC Associates								✓		
56.	Mike Gammon	Kansas City Power & Light	✓									
57.	Mike Gammon (G13)	KCPL	✓		✓		✓					
58.	Jim Useldinger (G13)	KCPL	✓		✓		✓					
59.	Clark Hawkins (G3)	Lee County Electric Cooperative			✓							
60.	Eric Ruskamp (G7)	LES	✓		✓		✓	✓				
61.	Donald Nelson (G8)	MA Dept of Public Utility									✓	
62.	Joseph DePoorter (I) (G6)	Madison Gas and Electric				✓						
63.	Craig McLean	Manitoba Hydro Energy Board	✓		✓		✓	✓				
64.	Tom Mielnik (G7)	MEC	✓		✓		✓	✓				
65.	Robert Coish	MHEB	✓		✓		✓	✓				
66.	Marie Knox (G6)	Midwest ISO		✓								
67.	Terry Bilke (I) (G7)	Midwest ISO		✓								
68.	Bill Phillips (G5)	Midwest ISO		✓								
69.	Jason Marshall (G6)	Midwest ISO		✓								
70.	Carol Gerou (G6) (G7)	Minnesota Power	✓		✓		✓					
71.	Larry Brusseau (G7)	MRO										✓
72.	Michael Brytowski (G7)	MRO										✓
73.	Mike Ranalli (G8)	National Grid US	✓									
74.	Randy McDonald (G8)	NBSO		✓								
75.	Lee Pedowicz (G8)	NCC										✓
76.	Jim Castle (G5)	New York ISO		✓								
77.	Greg Campoli (G8)	New York ISO		✓								
78.	Ralph Rufrano	New York Power Authority	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
	(G8)											
79.	Rick White	Northeast Utilities	✓									
80.	Murale Gopinathan (G8)	Northeast Utilities	✓									
81.	Guy V. Zito (I) (G8)	NPCC										✓
82.	Al Adamson (G8)	NY State Reliability Council										✓
83.	Pete Kuebeck (G13)	OG&E	✓		✓		✓					
84.	Scott R. Cunningham	Ohio Valley Electric Corporation	✓									
85.	Stan Southers/Ellis Rankin	Oncor	✓									
86.	Brian Gooder (G8)	Ontario Power Generation					✓					
87.	Lauri Jones	Pacific Gas & Electric	✓		✓		✓					
88.	Patrick Brown (G5)	PJM Interconnection		✓								
89.	Jack Bernhardsen (G14)	PNSC										✓
90.	David K. Thorne	Potomac Electric Power Company	✓		✓							
91.	Bill Roeder (G9)	PPL Eastern Fossil & Hydro					✓					
92.	Joe Kisela (G9)	PPL Eastern Fossil & Hydro					✓					
93.	Mark Heimbach (G9)	PPL EnergyPlus						✓				
94.	Jon Williamson (G9)	PPL EnergyPlus	✓					✓				
95.	Annette M. Bannon	PPL Generation LLC					✓	✓				
96.	David Gladey (G9)	PPL Susquehanna					✓					
97.	Tom Bradish	Reliant Energy			✓		✓	✓				
98.	Scott Peterson	San Diego Gas and Electric	✓		✓							
99.	Terry L. Blackwell (G10)	Santee Cooper	✓									
100.	S. Tom Abrams (G10)	Santee Cooper	✓									
101.	Glenn Stephens (G10)	Santee Cooper	✓									
102.	Rene Free (G10)	Santee Cooper	✓									
103.	Kristi Boland (G10)	Santee Cooper	✓									
104.	Jim Peterson (G10)	Santee Cooper	✓									
105.	Wayne Ahl (G10)	Santee Cooper	✓									
106.	John Ciza (G12)	Southern Company Generation						✓				
107.	Roman Carter (G11)	Southern Company Transmission	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
108.	Tom Higgins (G12)	Southern Generation						✓				
109.	Marc Butts (G11)	Southern Transmission	✓									
110.	J.T. Wood (G11)	Southern Transmission	✓									
111.	Jim Busbin (G11)	Southern Transmission	✓									
112.	Mike Oatts (G11)	Southern Transmission	✓									
113.	Jim Griffith (G11)	Southern Transmission	✓									
114.	Raymond Vice (G11)	Southern Transmission	✓									
115.	Doug McLaughlin (G11)	Southern Transmission	✓									
116.	Robert C. Rhodes (G13)	SPP	✓	✓	✓		✓					
117.	Jason Smith (G13)	SPP		✓								
118.	Kyle McMenamin (G13)	SPS	✓		✓		✓					
119.	Stephen Joseph	Tampa Electric Company	✓		✓		✓					
120.	Art Nordlinger (G3)	Tampa Electric Company	✓									
121.	Larry Whanger (G1)	VA ELECTRIC & POWER CO.					✓					
122.	Gibbs Goldman (G1)	VA ELECTRIC & POWER CO.					✓					
123.	Nancy Bellows (G14)	WAPA										✓
124.	Robert Temple	WAPA	✓					✓				
125.	Jim Haigh (G7)	WAPA	✓					✓				
126.	Howard Rulf	We Energies			✓	✓	✓					
127.	Linda Perez (G14)	WECC										✓
128.	Jim Medford (G13)	Westar	✓		✓		✓					
129.	Neal Balu (G7)	WPS			✓	✓	✓	✓				
130.	Pam Oreschnick	XCEL	✓		✓		✓	✓				
131.	Terri K. Eaton	Xcel Energy	✓		✓		✓	✓				

I – Individual
G1 – Dominion Resources Services, Inc.
G2 – FirstEnergy Corp.
G3 – Florida Reliability Coordinating Council
G4 – Hydro One Networks, Inc.
G5 – ISO/RTO Council
G6 – Midwest ISO (1)
G7 – Midwest Reliability Organization
G8 – NPCC Regional Standards Committee
G9 – PPL Generation
G10 – Santee Cooper
G11 – Southern Transmission
G12 – Southern Generation
G13 – SPP Operating Reliability Working Group
G14 – WECC Reliability Coordination Comments Work Group

Index to Questions, Comments, and Responses

1. The SDT has changed the title and purpose of both standards in order to clarify what is meant by restoration in these standards. Does this change sufficiently clarify the intent? If not, please explain in the comment area. 8

2. The SDT has attempted to clarify when restoration ends in both standards as part of R1. Do you agree with this change? If not, please explain in the comment area..... 25

3. The SDT has clarified EOP-005-2, R10 to emphasize exactly which field switching personnel need to be trained. Do you agree with this change? If not, please explain in the comment area. 35

4. The SDT has added Violation Risk Factors and Time Horizons to both standards. Do you agree with the assignments made? If not, please explain in the comment area.. 44

5. The SDT has added an Implementation Plan. Do you agree with the proposed Implementation Plan? If not, please identify specifically what you feel needs to be modified in the comment area. 51

1. The SDT has changed the title and purpose of both standards in order to clarify what is meant by restoration in these standards. Does this change sufficiently clarify the intent? If not, please explain in the comment area.

Summary Consideration: The comments received were mainly for clarification purposes. Appropriate changes have been made to the text to accomplish those clarifications. In addition, the SDT has clarified its intent in EOP-006-2 to accommodate restoration coordination by the RC with and without Blackstart Resources. Text was changed as follows:

EOP-005-2:

- **Title:** System Restoration ~~and~~ from Blackstart Resources
- **Definition: Blackstart Resource:** A generation Facility and associated set of equipment which has the ability to be started without support from the System or is designed to remain energized without connection to the remainder of the System, with the ability to energize a ~~dead (de-energized)~~ bus, meeting the Transmission Operator's restoration plan needs for real and reactive power capability, frequency and voltage control, and that has been included in the Transmission Operator's restoration plan.
- **Purpose:** Ensure plans and Facilities are established, and personnel are prepared ~~in place~~ to enable System restoration from Blackstart Resources to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection.
- **R1.1:** A description of the manner in which ~~obligations~~ Agreements for off-site power requirements of nuclear power plants will be fulfilled during System restoration.
- **R1.6:** ~~A statement accounting for the possibility that restoration can not be completed as expected indicating that in situations where the actual conditions do not match the studied conditions, the System Operator shall use professional judgment to deviate from the System restoration plan.~~ (this refers to R1.6 in the second posting).
- **R2:** Each Transmission Operator~~, in order to ensure the reliability of the Interconnection~~, shall distribute its approved restoration plan to the reliability-related operational entities identified in its restoration plan~~, and to it's Reliability Coordinator~~ within thirty calendar days of having received approval from its Reliability Coordinator.
- **R3:** Each Transmission Operator shall review its restoration plan and submit it to its Reliability Coordinator ~~on an annual (rolling 365 days) basis~~ annually on a mutually agreed predetermined schedule.
- **R6:** Each Transmission Operator shall verify through ~~a combination of~~ analysis of actual events, steady state and dynamic simulations, or testing, that its documented restoration plan accomplishes its intended function. This shall be completed every five years at a minimum. Such simulations or testing shall analyze:
- **R7.2:** ~~Each affected Transmission Operator shall give high priority to restoration of off-site power to nuclear power plants as directed by the Reliability Coordinator and in agreement with reliability standard NUC-001.~~ deleted (this refers to R7.2 in the second posting).
- **R7.4:** If the restoration plan cannot be completed as expected because actual conditions do not match the studied conditions, the Transmission Operator shall utilize its restoration plan philosophies to implement alternative measures for achieving System restoration.
- **R9.2.1:** The ability to start the unit when isolated with no support from the BES or when designed to remain energized without connection to the remainder of the System.

- **R9.2.2:** The ability to energize a ~~dead (de-energized)~~ bus. If it is not possible to energize a ~~dead (de-energized)~~ bus during the test, the testing entity must affirm that the unit has the capability to energize a ~~dead (de-energized)~~ bus such as verifying that the breaker close coil relay can be energized with the voltage and frequency monitor~~s~~ controls disconnected.

EOP-006-2:

- **Title: System Restoration ~~from Blackstart Resources~~ Coordination**
- **Purpose:** Ensure plans~~, and Facilities~~ are established and personnel are ~~in place~~ prepared to enable effective coordination of the System restoration ~~from Blackstart Resources~~ process to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection.
- **R1:** Each Reliability Coordinator shall have a Reliability Coordinator Area restoration plan. The scope of the Reliability Coordinator's restoration plan starts when Blackstart Resources are utilized to re-energize a shut down area of the BES, or separation has occurred between neighboring Reliability Coordinators, or an energized island has been formed on the BES within the Reliability Coordinator Area. The scope of the Reliability Coordinator's restoration plan ends when all of its Transmission Operators are interconnected and it is connected to all of its neighboring Reliability Coordinators. ~~The restoration plan shall be written such that it allows for the restoration of its area following a Disturbance in which one or more areas of the Bulk Electric System (BES) shuts down and the use of Blackstart Resources is required to restore the shut down area to service, to **a state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage** for an event that requires the utilization of Blackstart Resources regardless of whether the Blackstart Resource is located within the Reliability Coordinator's Area.~~ The restoration plan shall include:
- **R1.8:** Identification of the Reliability Coordinator as the primary contact for disseminating information regarding restoration to neighboring Reliability Coordinators, and to Transmission Operators, and Balancing Authorities within its Reliability Coordinator Area.
- **R7:** ~~Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, each~~ Each Reliability Coordinator shall work ~~in conjunction~~ with affected Balancing Authorities, Generator Operators, and Transmission Operators as well as neighboring Reliability Coordinators to monitor restoration progress, coordinate restoration, and take actions to restore the BES frequency within acceptable operating limits. Such actions may include but not be limited to adjusting generation, placing additional generators on line, or shedding Load.
- **R7.1:** If the restoration plan cannot be completed as expected because actual conditions do not match the studied conditions, the Reliability Coordinator shall utilize its restoration plan philosophies to implement alternative measures for achieving System restoration.
- **R8:** ~~Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, the~~ The Reliability Coordinator shall authorize and coordinate resynchronizing ~~isolated~~ islanded areas that bridge boundaries between Transmission Operators or Reliability Coordinators.
- **R8.1:** If the restoration plan cannot be completed as expected because actual conditions do not match the studied conditions, the Reliability Coordinator shall utilize its restoration plan philosophies to implement alternative measures for achieving System restoration.

- **R9:** (This requirement was moved to R1.8.)
- **M7:** ~~If there has been a Disturbance in which Blackstart Resources have been utilized, each~~ Each Reliability Coordinator involved shall have evidence such as voice recordings, e-mail, dated computer printouts, or operator logs, that it monitored and coordinated restoration progress in accordance with Requirement R7.
- **M10:** Each Reliability Coordinator shall have evidence ~~such as training records~~ that it conducted two System restoration drills, exercises, or simulations per year and that ~~included~~ Transmission Operators and Generator Operators ~~with Blackstart Resources~~ included in the restoration plan were invited in accordance with Requirement R11.

#1 – Commenter	Yes	No	Comment
Constellation		X	The title "System Restoration from Blackstart Resources" implies that only bottom-up approaches to system restoration should be included in everyone's restoration plan. Restoration Plans have to include the option to restore by utilizing external ties (top-down approach). In addition, many of the requirements are not directly linked to "System Restoration from Blackstart Resources", for example, off-site power for nuclear power plants, operating procedures to re-establish connections, etc. We suggest the following title; "System Restoration Plan & Validation Requirements" to better describe the intent of the standards. Also, if the title is not changed, there is inconsistency in the page headings (System Restoration and…) and the title (System Restoration from…).
Response: The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources. The SDT believes that the items listed in your comment are part of the restoration plan required by these standards and therefore are applicable under the title. The heading has been modified to match the title.			
Entergy Services (2)		X	What is the title for EOP-005? The Header indicates System Restoration and Blackstart Resources - Operations. The "Title" in Section A indicates System Restoration from Blackstart Resources - Operations. Either one is satisfactory, just be consistent. It is still not clear as to whether this standard applies if restoration occurs without the use of a Blackstart Resource (i.e. a neighboring BA instead of a generating facility).

#1 – Commenter	Yes	No	Comment
Response: The heading has been modified to match the title. The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources.			
IESO ISO New England ISO/RTO Council MISO (2)	X	X	EOP-005 We agree with the revision to the purpose but not the title, which should remain as [System Restoration "and" Blackstart Resources], as in the heading but not "from" in the Title. EOP-006 The Heading and the Title are the same in this case but we believe they both should be changed to "System Restoration and Blackstart Resources" since there are requirements assigned to the operator of the Blackstart Resources. The subject of this standard is not just System Restoration; its testing and readiness of Blackstart Resources as well.
Response: The heading has been modified to match the title. The standard covers the readiness to restore the system from a blackout condition utilizing Blackstart Resources and addresses all aspects of what it takes to be a Blackstart Resource. The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources.			
NPCC RSC	X	X	EOP-005 We agree with the revision to the purpose but not the title, which should remain as [System Restoration "and" Blackstart Resources], as in the document header but not "from" in the Title. The subject of this standard is not just System Restoration; its testing and readiness of Blackstart Resources. To support the Purpose, plans and facilities need to be in place. There are currently no testing requirements for generation facilities "capable of remaining energized without connection to the remainder of the system". If these requirements are not developed, the Blackstart Resource definition needs to be modified. EOP-006 The Header and the Title are the same in this case but we believe they

#1 – Commenter	Yes	No	Comment
			both should be changed to "System Restoration and Blackstart Resources" since there are requirements assigned to the operator of the Blackstart Resources.
Madison Gas and Electric	X		For standard, EOP-005-2 Title across top of page is "system restoration AND blackstart resources" A.1. TITLE: states "system restoration FROM blackstart resources", this grammitical error needs to be corrected.
Pacific Gas and Electric	X		In the EOP-005 title it is not the same as the header, caused a little discusstion.
Response: The heading has been modified to match the title. The standard covers the plans to restore the system from a blackout condition utilizing Blackstart Resources. Testing is part of the determination of a unit being a Blackstart Resource. The testing requirements for units that are designed to remain energized without connection to the remainder of the System have been added to R9.2.1. The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources.			
FirstEnergy		X	EOP-005: The purpose should be revised as follows to more accurately reflect the functionality of the standard. "Ensure plans and Facilities are established, and the roles and responsibilities of personnel are clearly defined to enable System restoration from Blackstart Resources to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection." Comment: A restoration plan does not ensure that personnel are in place. It can only define roles and responsibilities. The operators must ensure the personnel are in place when needed. EOP-006: The purpose should be revised as follows to more accurately reflect the functionality of the standard. "Ensure plans, and Facilities are established and the roles and responsibilities of personnel are clearly defined to enable effective coordination of the System restoration from Blackstart Resources to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection." Comment: A restoration plan does not ensure that personnel are in place. It can only define roles and responsibilities. The Reliability Coordinators must ensure the personnel are in place when needed.
FRCC	X	X	We would recommend some slight simplification of the Purpose statements on both standards:

#1 – Commenter	Yes	No	Comment
			Purpose: Ensure plans and procedures are in place, and remain current, that enable reliable Interconnection restoration from Blackstart Resources.
San Diego Gas and Electric		X	Not sure how you have reliability during a restoration. That is why you are restoring the system. There's been a loss of reliability. Suggested revision below: Purpose: Ensure plans, Facilities, and personnel are in place to enable reliable System restoration from Blackstart Resources and to ensure priority is placed on restoring the Interconnection.
SPP ORWG		X	We recommend the following to replace the draft purposes. EOP-005-2: Ensure plans and Facilities are established and personnel are in place to enable System restoration from Blackstart Resources in order to maintain reliability during restoration and assign priority to restoring the Interconnection. EOP-006-2: Ensure plans and Facilities are established and personnel are in place to enable effective coordination of the System restoration from Blackstart Resources process in order to maintain reliability during restoration and assign priority to restoring the Interconnection.
We Energies		X	Under the 'Purpose' section, both standards read: "... ensure reliability is maintained during restoration ..." Should read something like: "... ensure restoration plans accommodate reliability concepts ..." It is not reasonable to assume that "reliability" can be maintained throughout every restoration.
Response: In the Purpose of both standards, “in place” has been changed to “prepared”. During restoration, maintaining reliability is paramount to making sure that the restored system does not black out again.			
CenterPoint Energy	X	X	The changes to the title and purpose appear to sufficiently clarify this is restoration that requires utilizing a Blackstart Resource. However, changing the wording from personnel are "available" to personnel are "in place" to enable System restoration does not appear to be a material change. Perhaps the true intent is that personnel are 'prepared' to enable System restoration. An intent, or purpose, involving personnel would be more applicable in a Personnel Performance, Training, and Qualifications standard.
MRO		X	EOP-005-02 & EOP-006 - Clarify what "in place" means. The MRO has concerns that this would require additional staffing at substations or

#1 – Commenter	Yes	No	Comment
			remote sites.
OVEC		X	Not sure what is meant by "personnel in place". Does this imply that personnel must be stationed 24X7 at all locations in the event restoration is required? It is also not clear how "reliability is maintained during restoration", since if we are in restoration mode, reliability is shot.
Santee Cooper		X	Could the SDT clarify the meaning of "personnel are in place" that is included in the purpose of both standards? How is that different from "personnel are available"?
Response: In the Purpose of both standards, “in place” has been changed to “prepared”.			
PPL Generation LLC		X	The changes made to the title and purpose of these standards has improved the clarity but PPL believes that the present title and purpose are still confusing. PPL recommends the title for EOP-006 be changed to Reliability Coordinator Plan for System Restoration using Blackstart Resources. PPL Recommends the title of EOP-005 be changed to Implementation of the System Restoration Plan using Blackstart Resources. Adding to the confusion is that EOP-005 is meant to implement the plan identified in EOP-006 but numerically comes before the standard. If possible, we suggest renumbering the standards so that the standard requiring the TO/GO to implement the System Restoration Plan comes after the standard that requires the RC to provide the plan.
Response: EOP-005 describes to the TOP and Blackstart GOPs their requirements for plans and implementation of restoration plans. EOP-006 describes the RC’s functions when EOP-005 is complete.			
Southern Company Transmission Southern Company Generation		X	The SDT has not provided Industry an appropriate means to discuss other deficiencies of the standard separate from the 5 specific questions being asked. Therefore, we have provided our concerns and comments here in question #1 of this comment form to ensure the SDT can see our concerns. 1. In our response to the initial draft of EOP-005, we indicated that applicability to the BA function was missing. In its response, the SDT disagreed even though Southern Company Transmission was not the only entity to point it out. We respectfully disagree with the SDT’s response and suggest the concern represented by the large footprint and load of the entities voicing similar concerns about the BA omission is too much of the Eastern Interconnection to be ignored. We feel that those Requirements in EOP-005-1 applying to the BA (e.g. R5, R6, and R11.3) are still appropriate.

#1 – Commenter	Yes	No	Comment
			2. It appears as if the SDT in its re-titling (i.e. changing "and" to "from") and text changes to the Purpose and Requirements is limiting the need for system restoration plans and training to those events that only require the use of Blackstart Resources to establish islands internal to the TOP area. This is often referred to as an "inside-out" strategy. This restriction would seem to imply no applicability of the standards to other restoration schemes where, for example, sources external to the shutdown area are used for cranking power (i.e. outside-in strategy). Such a limitation of applicability would not seem appropriate since both strategies require similar actions by the TOP to control voltage and restore service the critical locations as the SDT indicates in EOP-005, R1.8. The "outside-in" scenario would most likely involve a relatively normal operating area and thus some applicability to the associated BA. This is because a mechanism/plan to manage/coordinate frequency control needs to exist between the operating BA and restoring TOP as the shutdown area is restored. 3. Even if the Standard is indeed limited to "inside-out" restoration, there needs to be applicability to the BA such that the transition state where the BA assumes responsibility for frequency, reserves and interchange from the TOP is done reliability and effectively per the other standards. In simple terms, the restoration is much like a two segment relay race. The first runner (TOP) with the baton (power system operation) is responsible for a rapid yet accurate (i.e. stay within the lane/limits) movement of the baton. The second runner (BA) must remain aware of the pace and location of the first in order to effectively assume responsibility of the baton from the first. If the second runner is not allowed to coordinate their steps with the first runner (ignore first runner), the results can be undesirable. Similarly, the first runner (TOP) cannot ignore the readiness of the second to assume responsibility. They can not just "throw" the baton at the second or just lay it on the ground at whatever point it desires and hope they pick it up. The first must place it in "hand" of the second runner prepared to receive it. In system restoration, as in the relay race, responsibility does not start for the BA and end for the TOP at the transition state but begins (albeit at different levels which evolve) for both at the initiation of the restoration. This is particularly true since the exact state where, as the SDT defines it, "the choice of the next Load to be restored is not driven by the need to control frequency" is not a unique state and both parties must acknowledge

#1 – Commenter	Yes	No	Comment
			it's been reached before responsibility is transferred. The responsibilities of the TOP and BA are not the same responsibilities but there are responsibilities linking the two during restoration that should not be overlooked or dismissed. 4. As noted previously in our comments, specific requirements for TOP training in the topics of frequency control and capacity reserve management must be included in R11 since the SDT has taken the position that those activities are in the command-and-control purview of the TOP "until sufficient System has been built where frequency is under control".
Response: 1. Balancing is not a function in restoration. A restoration area acts like an island with no balancing until restoration described in this standard is complete. Once this standard's requirements are complete the BA functionality can be put in place. 2. The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources. 3. The SDT intends that the "relay runner" hand off be to the RC instead of the BA. The RC can involve the BA as the standard allows it (see EOP-006-2, R7). 4. The SDT believes that the statement indicating that the restoration plan shall include acceptable frequency and voltage limits in R1 essentially mandates that frequency control and capacity reserve management are included as part of EOP-005-2 R11.1 (system restoration philosophy).			
WECC RCCWG		X	The RCCWG feels the scope of restoration is much too restrictive in this draft standard. Disturbances that cause islanding in the system and require restoration of islands, etc. are much more common than events that require use of blackstart resources. The RCCWG believes that a standard to be followed in assessing, stabilizing, and restoring the system, from less than a blackstart situation with requirements for functional entity protocol and procedure needs to remain. The WECC RCCWG believes that blackstart can be included in requirements in this standard as it is today or that another standard should be drafted to solely address blackstart.

#1 – Commenter	Yes	No	Comment
			Additionally, the WECC RCCWG believes that wording regarding the purpose and/or term definitions have now been placed into R1 in both EOP-005 and EOP-006. The group recommends that language referring to the purpose and/or definitions be removed from the standard requirements and placed into other sections of the standard. The R1 Requirement (not addressing the sub-requirements) should simply be to have a restoration plan.
Response: The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources. The additional words in R1 help define when the standard applies and more importantly when the standard no longer applies.			
Xcel Energy		X	The titles and purpose do little to clarify what "restoration" means as that term is used in the standards. Rather, it appears that the definition of restoration is embedded in R1 of EOP-005. Xcel Energy is concerned that in general the proposed standards do little to clarify expectations for either TOs or GOs. For example: -EOP-005 R1 requires that the RC approve the TO's restoration plan, but provides no criteria for that approval; Response: The RC approves the plan per EOP-006-2, R5. -EOP-005 R1.7 requires that the TO have operating procedures to reestablish connections within the TOs system for areas that have become separated while EOP-006, R1.1 requires that RC s have procedures for restoring the integrity of the interconnection. Arguably, both situations involve integrity of the interconnection yet it is not clear where the RC's authority begins and ends Response: EOP-005-2, R1.7 strictly deals with areas under the control of the TOP. EOP-006-2, R1.1 deals with a much higher level of establishing the integrity of the Interconnection. -EOP-005 R1.5 gives the TO the responsbility to identify acceptable operating voltage and frequency limits during restoration, while EOP-006 R1.5 gives the same responsbility to the RC Response: EOP-005-2, R1 helps define when the standard applies and more importantly when the standard no longer applies. EOP-006-2 would take precedence then. Other provisions of the standard are confusing. For example, EOP-005 R1.1 requires the TO to provide "A description of the manner in which all

#1 – Commenter	Yes	No	Comment
			obligations for off-site power requirements of nuclear power plants will be fulfilled." What is the difference between obligations and requirements in this provision, and what exactly is expected of the TO here? Further, issues relating to off-site power for nuclear facilities are already addressed in NUC-001 R9.3.5. Duplication of substance in multiple standards can lead to confusion and should be avoided. Response: EOP-005, R1.1 has been re-worded and R7.2 has been removed because of coordination with R9.3.5 in NUC-001. What is the value of a requirement that says that a plan must include "A statement accounting for the possibility that restoration cannot be completed….?" Wouldn't it be better to require the plan to include contingency measures in the event the system cannot be properly restored rather than just having "a statement" that a contingency might arise? Response: EOP-005-2, R1.6 has been removed and the concept added to R7.3. What is the objective behind requiring updates on a 365-day rolling basis? Xcel Energy believes that plans are durable enough to support revision on an annual basis and there is no need to control and direct the manner in which entities undertake plan revisions by requiring updates on a rolling 365-day basis. Response: The rolling 365-day basis has been removed from EOP-005-2, R3. The submittal must now occur annually on a mutually agreed predetermined schedule. The measures set out in the standard appear to serve little purpose in enhancing reliability. Xcel Energy sees little value in requiring an entity to provide receipts proving it provided documentation to its RC when the RC will know whether or not it received a particular update. This emphasis on retention of arguably trivial pieces of data detracts from what should be the objective of the standard--to ensure comprehensive and integrated restoration planning and operations. Response: Documentation receipts are used to determine if actions required by the standards are being performed and help with compliance monitoring. Xcel Energy believes that a fundamentally different approach to development requirements relating to planning and operations during

#1 – Commenter	Yes	No	Comment
			system restoration may be needed. For example, both standards could benefit from a clear delineation of the roles and responsibilities of TOs and GOs on the one hand and RCs on the other hand. With roles and responsibilities more clearly defined, more clear direction on expectations regarding system restoration could be developed. Further, required periodic planning and coordination sessions (potentially every 5 years) could provide much greater opportunities for coordinated integration of plans than passing plans back and forth every year. As part of the planning effort, a list of key elements of plans could be developed and then implemented rather than driving structures of plans on the basis of specific listed elements that may or may not adequately cover all situations. Response: The SDT strives to delineate the roles of TOPs and GOPs in the EOP-005 standard and the role of RCs in the EOP-006 standard. Documentation serves as a basis for training and reference. The SDT encourages Xcel to utilize whatever means necessary to achieve readiness for restoration. Again, it also serves as evidence for use in compliance monitoring.
Response: See the in-line responses.			
Duke Energy	X	X	General comments on EOP-005-2: 1. R1.2 says that the TO's restoration plan must include procedures for restoring the integrity of the Interconnection under the direction of the Reliability Coordinator. It should say under the "oversight" of the RC. As the SDT noted in Consideration of Comments: "Beginning with the system collapse, the TOP restores the Transmission System, restores interconnections, and supplies offsite power to nuclear generating stations. This is accomplished on a command and control basis by the Transmission Operator in conjunction with the GOP. Once interconnections have been reestablished and the Transmission System restored, the restoration of firm Load can begin. The TOP is restoring the System through command and control until a sufficient System has been built where frequency is under control." Response: The SDT believes that EOP-005-2, R1.2 is correct as stated since the RC has the responsibility for the Interconnection (defined term). 2. R2 should be clarified to state that the TO shall distribute its plan to "appropriate" entities identified in the plan. The plan contains highly sensitive critical energy infrastructure information that is not needed by

#1 – Commenter	Yes	No	Comment
			entities such as police, fire, etc. Response: The entities mentioned in EOP-005-2, R2 are functional entities as described in the NERC Functional Model. R2 has been modified to use the phrase, "reliability-related operational entities" to clarify this point. 3. R4 We continue to believe that an annual update is sufficient. Response: The rolling 365-days basis has been removed from EOP-005-2, R3. The submittal must occur annually on a mutually agreed predetermined schedule. 4. R10 states that "Each Transmission Operator shall distribute its Blackstart Resource testing requirements to each Generator Operator in its area that operates a Blackstart Resource." However, TO's and GO's don't communicate directly. The Balancing Authority distributes testing requirements to generators. Response: This communication is special for restoration purposes only. It is important that TOPs communicate directly to the GOPs with Blackstart units and the SDT has provided for this in EOP-005-2, R14. 5. R13 and R19 should specify that participation in one drill per year is sufficient. Response: R13 applies to TOPs and R19 applies to GOPs. It is likely that both TOPs and GOPs will be included in the same drills, but the possibility does exist that drills will cover one function, whereby attendance at more than one drill may be required. Additionally RCs may elect to perform more than one drill each year and attendance at all required drills is required. EOP-006, R11 limits the RC to 2 drills per year. The SDT believes that this is a reasonable number. 6. R16 states that GO's must inform TO's of any known capability changes. However, the TO's and GO's don't communicate directly. This information is communicated through the BA, and should be reflected in the requirement. Response: This communication is special for restoration purposes only. It is important that TOPs communicate directly to the GOPs with Blackstart units and the SDT has provided for this in EOP-005-2, R14.

#1 – Commenter	Yes	No	Comment
Response: See the in-line responses.			
Hydro One Networks	X	X	EOP-005-2 keep consistent the document header and title. The definition of Blackstart Resource (EOP-005-2) should be changed to remove the term 'de-energized' as this term is synomous with isolation/clearance procedures and could be misconstrued as the dead bus being grounded. Suggest complete removal of term or replace with 'off-potential'. EOP-006-2 R8 - the use of the term isolated is incorrect. In terms of safety, isolation is defined as seperated from sources of energy using visible devices (switches, valaves, etc.) - suggest using 'stable' or 'islanded' as an alternative.
Response: The heading has been modified to match the title. The term de-energized seems to be a well accepted industry term that does not necessarily include grounding but in order to avoid possible confusion, the terms dead and de-energized have been removed from the definition as well as from EOP-005-2, R9.2.2. R8 in EOP-006-2 has been modified according to the comment - “isolated” was replaced with “islanded.”			
Exelon Corp.			Please clarify EOP-005, R2. Who are the "entities"? Where is it specified who the restoration plan must be distributed to? R2. Each Transmission Operator, in order to ensure the reliability of the Interconnection, shall distribute its approved restoration plan to the entities identified in its restoration plan, and to it’s Reliability Coordinator. Note that that in EOP-006, R2 says: R2. The Reliability Coordinator, to ensure the reliability of the Interconnection, shall distribute its Reliability Coordinator Area restoration plan to its Transmission Operators, Balancing Authorities, and neighboring Reliability Coordinators. Are the "entities" in EOP-005 R2 the Transmission Operators, Balancing Authorities, and neighboring Reliability Coordinators from R2 EOP-006? Proposed R2. for EOP-005 Each Transmission Operator, in order to ensure the reliability of the

#1 – Commenter	Yes	No	Comment
			Interconnection, shall distribute its approved restoration plan to the Balancing Authorities, Reliability Coordinator and neighboring Reliability Coordinators.
Response: The entities mentioned in EOP-005-2, R2 are reliability-related operational entities as described in the NERC Functional Model. R2 has been modified to clarify this point. The true listing of the functional entities that must be on the distribution list depend on the plan itself and which entities are included.			
Con Edison	X		Con Edison commends the SDT for inserting the word "reliability" into the Purpose. However, the statement "to ensure reliability is maintained during restoration" must be expanded to include "ensure black start resources are reliable and maintain reliability during restoration" or the restoration process cannot be initiated. Con Edison is concerned that the current "blackstart resource" definition includes generation facilities that are extremely unreliable. The definition includes generation facilities that "remain energized without connections to the remainder of the system", or load rejection units. If the SDT wants to include these facilities, then testing requirements in section R17 need to be developed that are specific for load rejection units. Testing requirements must include full load rejection for conditions such as a low frequency disturbance, instability-type disturbance, and a switchyard isolation event. Some of these tests are difficult if not impossible to implement, and therefore, will eliminate "load rejection units" from the standard. Blackstart units are testable from the batteries used to startup diesel engines, gas turbines or hydro units to the startup of steam units. Un-testable and historically unreliable "load rejection" generation facilities must not be included in this standard. This issue was highlighted in comments on the first draft, however these comments were not addressed by the SDT. Commenter's included IESO, NYISO, NBSO, ISO/RTO, MRO SRC, First Energy, ATC, Southern Transmission, NPCC RSC. To help address these concerns, please provide responses to the following questions. 1. The SDT did not respond to the NYISO questions concerning reliability of generation islanding schemes (1st draft). Please advise. 2. What testing requirements does the SDT recommend for these load rejection generation facilities?

#1 – Commenter	Yes	No	Comment
			3. Provide historical reliability data supporting an effort to consider the inclusion of load rejection generation facilities.
Response: During restoration, maintaining reliability is paramount to making sure that the restored system does not black out again. This is such a cornerstone of restoration operations that it seemed redundant to the SDT to write it in. Generator load rejection reliability has been reported to be similar to other blackstart units. The results of a survey conducted by the Power Generation Committee as reported in the IEEE Transactions on Power Apparatus & Systems, vol. PAS-100, May 1981, mention rejection tests. According to this survey "Rejection tests are, in general, carried out from full load to unit auxiliaries or no load. However, one utility reported that tests are carried out at three different generator load levels ranging from 20% to 100% of full load." The SDT believes that the additional testing mentioned is already handled in the PRC standards. The SDT does not want to prohibit these types of schemes as long as the TOP and RC are satisfied with the testing that is done. The testing requirements for units that remain energized without connection to the remainder of the System have been added to EOP-005-2, R9.2.1.			
Northeast Utilities	X		EOP-005-2, Requirement R2 needs to be evaluated in light of confidentiality and critical energy infrastructure information. Overall plan can be shared, but specifics may need to reside in confidential appendices. EOP-005-2, Requirement R6; propose re-wording as follows: R6. Each Transmission Operator shall verify, through analysis, that its documented restoration plan accomplishes its intended function. This analysis can include analysis of actual events, physical testing of the plan, application of relevant technical publications or guidelines, or simulations of steady state, dynamic and switching surge performance. This shall be completed every five years at a minimum. Such analysis shall encompass: R6.1. , R6.2., R6.3., … as proposed
Response: The entities mentioned in EOP-005-2, R2 are reliability-related operational entities as described in the NERC Functional Model. R2 has been modified to clarify this point. EOP-005-2, R6 has been modified to clarify the SDT's intent. The SDT does not believe that introducing relevant technical publications is a valid criterion as 'relevant' is a subjective term and lacks specifics with regard to an entity's unique characteristics.			
Potomac Electric Power Company	X		M2--Requires evidence such as emails with receipts or registered mail receipts. Suggest that it also specify that acknowledgement of receipt by the entity is acceptable evidence.
Response: Items mentioned in M2 are examples. The key word is evidence and e-mail replies are considered as evidence in standards.			

#1 – Commenter	Yes	No	Comment
Ameren	X		
American Electric Power	X		
ATC LLC	X		
Bonneville Power Administration	X		
Consumers Energy	X		
Dominion Resources Services	X		
Dominion Virginia Power	X		
Entergy Services (1)	X		
KCPL	X		
MHEB	X		
MISO (1)	X		
Oncor	X		Oncor endorses the changes made by the SRB SDT to the previous versions of the draft standards.
Reliant Energy	X		
Tampa Electric Company	X		
Western Area Power Administration	X		
Response: Thank you for your comment.			

2. The SDT has attempted to clarify when restoration ends in both standards as part of R1. Do you agree with this change? If not, please explain in the comment area.

Summary Consideration: The comments received were mainly for clarification purposes. Appropriate changes have been made to the text to accomplish those clarifications. Text was changed as follows:

EOP-005-2:

- **R1.1:** A description of the manner in which ~~obligations~~ Agreements for off-site power requirements of nuclear power plants will be fulfilled during System restoration.
- **R6.2:** The location and magnitude of Loads required to control voltages and frequency within acceptable limits. ~~required to stabilize the Blackstart Resources and other resources being utilized until the restoration state has ended.~~

EOP-006-2:

- **Title: System Restoration ~~from Blackstart Resources~~ Coordination**
- **Purpose:** Ensure plans~~, and Facilities~~ are established and personnel are ~~in place~~ prepared to enable effective coordination of the System restoration ~~from Blackstart Resources~~ process to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection.
- **R1:** Each Reliability Coordinator shall have a Reliability Coordinator Area restoration plan. The scope of the Reliability Coordinator's restoration plan starts when Blackstart Resources are utilized to re-energize a shut down area of the BES, or separation has occurred between neighboring Reliability Coordinators, or an energized island has been formed on the BES within the Reliability Coordinator Area. The scope of the Reliability Coordinator's restoration plan ends when all of its Transmission Operators are interconnected and it is connected to all of its neighboring Reliability Coordinators. ~~The restoration plan shall be written such that it allows for the restoration of its area following a Disturbance in which one or more areas of the Bulk Electric System (BES) shuts down and the use of Blackstart Resources is required to restore the shut down area to service, to a state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage for an event that requires the utilization of Blackstart Resources regardless of whether the Blackstart Resource is located within the Reliability Coordinator's Area.~~ The restoration plan shall include:
- **R1.8:** Identification of the Reliability Coordinator as the primary contact for disseminating information regarding restoration to neighboring Reliability Coordinators, and to Transmission Operators, and Balancing Authorities within its Reliability Coordinator Area.
- **R7:** ~~Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, each~~ Each Reliability Coordinator shall work ~~in conjunction~~ with affected Balancing Authorities, Generator Operators, and Transmission Operators as well as neighboring Reliability Coordinators to monitor restoration progress, coordinate restoration, and take actions to restore the BES frequency within acceptable operating limits. Such actions may include but not be limited to adjusting generation, placing additional generators on line, or shedding Load.
- **R8:** ~~Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, the~~ The Reliability Coordinator shall authorize and coordinate resynchronizing ~~isolated~~ islanded areas that bridge boundaries between Transmission Operators or Reliability Coordinators.

- **R9:** This requirement was moved to R1.8.
- **M7:** ~~If there has been a Disturbance in which Blackstart Resources have been utilized, each~~ Each Reliability Coordinator involved shall have evidence such as voice recordings, e-mail, dated computer printouts, or operator logs, that it monitored and coordinated restoration progress in accordance with Requirement R7.

#2 – Commenter	Yes	No	Comment
Ameren		X	R1 & R2: In addition to the RC, suggest other major stakeholders involved in the restoration effort such as GOP's be allowed to provide technical review/comment on the restoration plan with a measurement for those comments to be addressed back in some way by the TO and/or RC. This would help make sure everyone is on the "same page" with the expectations and roles of their black-start generators and any concerns/issues are addressed up front in the plan instead of in the field during a restoration event. This could also benefit how we conduct tests and write test procedures, not to mention we may have some useful technical input in general that could help out. R19: It would be beneficial to require the RC to give ample notice (maybe 90 days) to all participants in the drills.
Response: The SDT believes that a formal review and approval cycle for other entities such as GOPs does not add to reliability. The GOP or any other entity that receives the distributed, approved plan always has the opportunity to discuss concerns with the TOP. Given the time that it takes to set up a drill, the SDT believes that 'notice' will have effectively been given in ample time for all intended participants and that therefore, a formal requirement is not necessary.			
American Electric Power		X	EOP 005-2 R6.2 needs to referance the R1 definition. We suggest "The Loads required to stabilize the Blackstart Resources and other resources being utilized until the restoration state has ended as defined in R1.
Response: The SDT appreciates the comment and has added wording to EOP-005-2, R6.2 to provide clarity.			
Constellation		X	Remove the "use of Blackstart Resources" wording from R1. Blackstart Resources may not always be required during a system restoration event. In many cases it may be faster to restore an area using a "top-down" approach. The way that this standard is currently written suggests that Blackstart Resources are always required. Restoration Plans need to include "top-down" and "bottom-up" restoration methods, and need to be flexible to allow the Transmission Operator/Transmission Owner to choose the quickest restoration method, or a combination of the two.

#2 – Commenter	Yes	No	Comment
Dominion Resources Services		X	We suggest deleting phrase "for an event that requires the utilization of Blackstart Resources" to make it consistent with that used in EOP-005-2 @ R1.
Dominion Virginia Power		X	In EOP-006-2, R1 contains a redundant phrase, "for an event that requires the utilization of Blackstart Resources". Deleting this phrase would make the wording consistent with that of R1 in EOP-005-2.
Response: The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources. Changes have been made to EOP-006-2, R1 to clean up the redundancy that was pointed out here. .			
CenterPoint Energy		X	The restoration plan should continue until connections are re-established for areas that have become separated. Once shut down area(s) have been resynchronized, restoration to a state whereby 'the choice of the next Generation to be placed on-line is not driven by the need to control frequency or voltage' should be included in addition to restoration "to a state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
Con Edison		X	Restoration ends when all customers have been restored. The current statement "to a state whereby the choice of the next load to be restored is not driven by the need to control frequency or voltage" is confusing. Voltage and frequency control are continuous in restoration and normal operations.
Duke Energy		X	Neither standard identifies when restoration ends. Nor do we believe that a standard can accomplish this. We think it can only be determined by the Balancing Authority on a case-specific basis.
Entergy Services (2)		X	It is not apparent from the Requirements in R1 as to when restoration ends.
FirstEnergy		X	EOP-005 & EOP-006: We recommend the latter part of the second sentence of R1 be revised to, "… to a state of Complete Restoration." And we recommend that a definition section be added to EOP-005 and EOP-006 to include the following term specific to these standards: Complete Restoration – The point in the restoration process whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage regardless of whether the Blackstart Resource is located within the Transmission Operator's System or an adjacent system"

#2 – Commenter	Yes	No	Comment
Hydro One Networks	X	X	While we agree the standard better clarifies the point at which you are out of true restoration activities and moving toward normal equipment and load operation to restore power, we have a concern with the idea that Blackstart Resources will get you to the point of the next Load being restored is not driven by the need to control frequency or voltage. Blackstart is used to start a unit(s), and energize out from the adjacent station to the next station on the path. The term cranking path is correct in that we are starting the system. Once begun, ensuring reliability is maintained is beyond Blackstart in its purest sense.
KCPL		X	It is not necessary to establish or define when the restoration efforts end. What is important in these standards is what is required to have effective restoration plans. The language to describe when a restoration effort has ended is out of place and does not fit with the final sentence introducing the elements of effective restoration plans.
Pacific Gas and Electric		X	Our concern is the clarification from when blackstart ends versus when restoration is complete. The standard only address when blackstart ends and should have further explanation on restoration.
Tampa Electric Company		X	I understand from reading R1 when restoration ends, however it seems there is a better more effective way to word this. The second sentence is 7 lines long.
We Energies		X	Conceptually, the idea that the plan extends to a point in time when load is no longer used as a tool for restoration is good. But during restoration, load is not typically added to maintain frequency. Dropping load could be used for frequency control, but the definitions are specific to restoring load. Would it make sense to say that the plan extends to the point where load restoration becomes priority over other restoration objectives?
WECC RCCWG		X	The WECC RCCWG believes that restoration is not complete until the Bulk Electric System is stabilized and all Bulk Electric System islands have been tied together. A standard with requirements addressing procedure and protocol to be followed should remain in use until the above conditions have been met. Additionally, the WECC RCCWG believes that a description of the end of a restoration effort should be placed elsewhere in the standard, such as in a definition or in the purpose, rather than in the standard requirements.
Xcel Energy		X	It appears that the standards attempt to indicate when restoration ends, but do it within the context of a specific obligation imposed upon the TO. It would be preferable to simply provide a definition.

#2 – Commenter	Yes	No	Comment
Response: The intent of the SDT is that EOP-005-2 only applies to restoration when utilizing Blackstart Resources by the TOP and GOP. Restoration from a partial shutdown is addressed in other standards including the revised EOP-006-2, TOP-001, TOP-004, and EOP-001. Modifications have been made to EOP-006-2 to reflect the potential for restoration with or without the use of Blackstart Resources.			
Entergy Services (1)		X	We recommend that the following draft: R1.1 A description of the manner in which all obligations for off-site power requirements of nuclear power plants will be fulfilled. be revised to: R1.1 A description of the manner in which obligations for off-site power requirements of nuclear power plants will be fulfilled to ensure safe shut down of the plant and to maintain the plant in a safe condition. Explanation: Depending on the operating state of the nuclear plant, typical auxiliary load varies from 60MW to 85MW. However, approximately less than 15MW of safe shut down loads are backed by diesel generator/s. It would be onerous for the transmission operator to supply all auxiliary loads during system restoration compared to safe shut down loads. Additionally, minimum voltage limits for off-site power are typically based on the entire auxiliary load supplied via the Start-up / Reserve Station Service (RSS) transformer. By clarifying this requirement to include only the portion of auxiliary loads necessary for safe shut down, voltage limits can be less restrictive, thus facilitating faster restoration while maintaining safety. Adding the suggested clarification will enhance the intent of this very important requirement.
Response: EOP-005, R1.1 has been revised to clarify the intent of the SDT.			
ISO New England ISO/RTO Council MISO (2)		X	The definition in 006 is not exactly the same as the definition in 005. R1 in EOP-006 includes a qualitifier "for an event that requires the utilization of Blackstart Resources." This is not in R1 for standard 005. This qualifier seems redundant with what is already provided in the rest of R1. We suggest this qualifier be deleted from R1 of EOP-006. We also suggest that R1 be revised to describe the end state of a Blackstart, not system restoration, by saying: "...to a state whereby

#2 – Commenter	Yes	No	Comment
			Blackstart Resources have been utilized to build electrical islands that exhibit stable frequency and acceptable voltages, and any remaining load can be restored through normal system restoration practices, regardless of where the Blackstart Resource is located."
NPCC RSC		X	The explanation of "restoration plan" appears to be a definition appropriate to be included in the NERC Glossary, furthermore the words appearing in EOP-006 are not the same as those in EOP-005, was this intentional because one standard applies to the RC and the other to TOP and GO? Could there be "one" common definition?
Response: EOP-006-2 has changed R1 to match the wording in EOP-005-2. EOP-006-2, R1 has been changed to clarify the start and end points of restoration for an RC and believes that this is a better solution than supplying a formal definition.			
Consumers Energy MISO (1)		X	The language "one or more areas" in Requirement 1 of both standards causes the sentence to be confusing. We recommend the following language for the sentence: "The restoration plan shall allow for restoring a shutdown area of the Functional Entity's System that requires the use of Blackstart Resources to a state …".
Response: The SDT believes that the current wording is clear and sufficiently implies the intent of the SDT.			
MRO		X	R1: (for both EOP-005-02 & EOP-006-02) The text is long and the sentence run on. Break the paragraph into shorter, more concise sentences. Throughout the standards, the words 'shut down' was used. The MRO believes an indusrty appropriate choice of words, like 'de-energized' is more appropriate.
Response: The SDT discussed the use of the term de-energized instead of shut down. The SDT believes the term shut down better defines the requirement to use Blackstart Resources rather than just closing breakers to re-energize from existing sources.			
San Diego Gas and Electric		X	This is not clear or accurate. Quite often, a black start unit is used to only start the restoration by restarting non-blackstart units. It's those non-blackstart units then quite often will continue to control frequency or voltage until they are interconnected to a larger system. Suggested revision below: Each Transmission Operator shall have a restoration plan approved by its Reliability Coordinator. The restoration plan shall enable the restoration of the Transmission Operator's System following a Disturbance in which one or more areas of its Bulk Electric System (BES) shuts down and the use of Blackstart Resources is required to restore the shut down area(s) to

#2 – Commenter	Yes	No	Comment
			service. The restoration plan shall end at the point when those shut down areas are again interconnected with the Interconnection. The restoration plan shall include: [Violation Risk Factor = High] [Time Horizon = Operations Planning]
Response: The SDT believes the end point described in EOP-005-2 is correct. The SDT has addressed the scope of continuing restoration in the revised EOP-006-2.			
Santee Cooper		X	It is not clear that R1 is defining the end of restoration. We recommend changing R1 to read as follows: Each Transmission Operator shall have a restoration plan approved by its Reliability Coordinator. The restoration plan shall allow for restoring the Transmission Operator's System following a Disturbance in which one or more areas of the Bulk Electric System (BES) shuts down and the use of Blackstart Resources is required to restore the shut down area to service. The restoration plan shall include: If there's a valid reason to define the end of restoration then we recommend adding it as R1.9 in EOP-005-2 and R1.8 in EOP-006-1 and to read as follows: Blackstart Restoration is complete when the choice of the next Load to be restored is not driven by the need to control frequency or voltage regardless of whether the Blackstart Resource is located within the Transmission Operator's System. We also agree that the RC should be involved in development and approval of the plan, but we do not agree that the RC have approval of the plan. This can be accomplished by allowing the RC to have input to the plan through formal comments. Approval should be left to the entity that will be held accountable for compliance to the requirements in the standard. Recommend changing R5.2 (EOP-006-2) to read: "The RC shall provide comments to the Transmission Operator's submitted….".
Response: The SDT believes that the existing context needs to be retained so that there is a clear indication of when restoration ends. FERC Order 693 defined the ultimate authority for restoration as the Reliability Coordinator. The approval process by the Reliability Coordinator flows from this requirement.			
SPP ORWG		X	While we don't believe a definition of the end of the restoration period is needed, if it was determined that a definition is desired, that definition should be in the definitions section of the standard and not in the

#2 – Commenter	Yes	No	Comment
			requirements. To eliminate the multi-part requirements in R1 of both standards, we suggest breaking R1 in each standard into two separate requirements. We propose the following: EOP-005-2 R1. Each Transmission Operator shall have a restoration plan approved by its Reliability Coordinator. R2. A Transmission Operator's restoration plan shall include: R2.1 A description… R2.2 Procedures for… R2.3 Identification of… R2.4 Identification of… R2.5 Identification of… R2.6 A statement… R2.7 Operating Procedures… R2.8 Operating Procedures… EOP-006-2 R1. Each Reliability Coordinator shall have a Reliability Coordinator Area restoration plan. R2. A Reliabiity Coordinator's restoration plan shall include: R2.1 Procedures for… R2.2 Descriptions of… R2.3 Descriptions of… R2.4 Criteria and conditions… R2.5 Identification of… R2.6 A statement accounting… R2.7 Reporting requirements…
Response: The SDT believes that the referenced definition is not a true definition but rather a statement of scope and has retained it. The proposed formatting change does not seem to add any clarity in the opinion of the SDT and the existing format has been retained. Each requirement is intended to describe a “deliverable” performance or product – if we subdivide R1 into two separate requirements; we are essentially duplicating the requirement to have a restoration plan.			
OVEC			While the statement declaring that "restoration ends when the choice to add the next load is not based on the need to control frequency or voltage" is good, there are other sub requirements of R1 that are not addressed

#2 – Commenter	Yes	No	Comment
			elsewhere in this comment form. R1.3 states that blackstart resources must be indentified by unit name. The definition of blackstart resource also includes any unit that is capable of remaining energized without connection to the system. This assumes that such a unit is on line at the time of the event, since not all such units are capable of being started without external sources of power. Thus the list of blackstart resources could change with the change in status of such a unit. This would require modification of the plan and submission to the RC for approval for every such change of status. This could happen very frequently, thus creating a great deal of work updating the plan and resubmitting it for RC approval.
Response: The SDT believes that you are confusing the plan with actual status during a restoration event. The plan must be flexible enough to allow for the change of status in Blackstart Resources.			
PPL Generation LLC	X		PPL Supply basically agrees with the changes made by the SDT to R1 that clarify the end of restoration. During our discusision of this question, we noted that there is no guidance that provides for clarity of initiating events for entry into the restoration plan. PPL recommends that the SDT consider adding the critieria for an initiating event or reference where that criteria is found that is a different standard.
Response: The SDT has changed EOP-006-2, R1 to clarify this point. .			
Exelon Corp.			No comment.
Northeast Utilities			No comment.
Southern Company Generation			No comment.
ATC LLC	X		
Bonneville Power Administration	X		
FRCC	X		
IESO	X		
Madison Gas and Electric	X		
MHEB	X		
Oncor	X		
Potomac Electric Power Company	X		
Reliant Energy	X		
Southern Company Transmission	X		
Western Area Power	X		

#2 – Commenter	Yes	No	Comment
Administration			
Response: Thank you for your comment.			

3. The SDT has clarified EOP-005-2, R10 to emphasize exactly which field switching personnel need to be trained. Do you agree with this change? If not, please explain in the comment area.

Summary Consideration: The comments received were mainly for clarification purposes. Appropriate changes have been made to the text to accomplish those clarifications. In addition, some yearly training requirements for field switching personnel and Generator Operator personnel have been pushed back to two year cycles. Text was changed as follows:

EOP-005-2:

- **R11:** Each Transmission Operator shall include within its operations training program, annual System restoration training to its ~~control room personnel~~ System Operators to ensure the proper execution of its restoration plan. This training program shall include the following:
- **R12:** Each Transmission Operator shall provide a minimum of two hours of System restoration training ~~per year~~ every two years ~~for~~ to field switching personnel identified as performing unique tasks associated with its restoration plan ~~and~~ that are outside of their normal tasks.
- **R18:** Each Generator Operator of a Blackstart Resource shall provide a minimum of two hours of training ~~per year~~ every two years to each of its operating personnel responsible for the startup and synchronization of its Blackstart Resource generation units. The training program shall include the following:

EOP-006-2:

- **R10:** Each Reliability Coordinator shall include within its operations training program, annual System restoration training for ~~the control room personnel identified in its restoration plan~~ its System Operators to ensure the proper execution of its restoration plan. This training program shall include the following:

#3 – Commenter	Yes	No	Comment
Ameren		X	R10 does not involve training.
FRCC			R12, not R10 identifies training requirements for field switching personnel.
Tampa Electric Company		X	EOP-005-2 R10 does not address this.
Response: The requirement in question was R12. The SDT apologizes for any confusion.			
American Electric Power		X	The field switching training time requirement listed in EOP-005 R12 needs to reflect the training need. The local training coordinator would be a better judge of the time required rather than mandating a fixed number of hours. In fact, all train ing requirements should be addressed in PER-003 and not in the EOP standard(s).
ATC LLC		X	The requirement seems to be a well developed but ATC is not yet convinced that it needs to be included in a standard.
CenterPoint Energy	X	X	In reference to R12, not R10, the wording sufficiently clarifies what field personnel this training requirement would apply. The tasks of field personnel in a blackstart restoration would not differ from tasks performed for storm restoration or other service restoration. However, any personnel

#3 – Commenter	Yes	No	Comment
			training, such as this and in R11 for training of control room personnel, should not be included in this standard but should be in applicable Personnel Performance, Training, and Qualifications standards.
Con Edison		X	I assume this is R11. No, it is not clear. Which personnel? TOP or the GOP?
Constellation		X	R10 does not cover this. If you are referring to R12 we offer the following comments. We think it describes which field switching personnel need to be trained, but we believe that it should also include the unique tasks that they need to be trained on. For example, they need to be trained on the use of a synchroscope, the establishment of cranking paths, restoration priorities, etc.
FirstEnergy		X	We believe question 3 above should be referencing "R12" instead of "R10" R12 Comments: We do not support this requirement. FE's field switching personnel do not independently perform transmission switching without taking direction from our transmission operations staff. It is FE's view that our field personnel do not need to be trained in the "big picture view" of system restoration and that the tasks required of them would not be significantly different than switching steps performed during normal operations. If these requirements remain, then we ask the SDT to give examples of system restoration field-switching tasks that would be "unique" and outside of "normal" tasks.
Madison Gas and Electric		X	(R12 contains information on training of field switching personnel) MGE understands the need for training and the need to have a well organized training program. Request that all training requirements be placed in the Personnel Performance, Training, and Qualifications (PER) NERC Standard section. This allows us and all entities who will have to live with the outcome of these Standards to be more organized and have one area to look for all NERC Training Requirements. To be compliant with a NERC Standard you are either in compliance or you are not. Reading FERC Order 693, paragraph 627, FERC sounds like they are placing more emphasis on training within the proposed standard than any other standard. I'm sure a regional entity will not view it that way when a registered entity is audited.
Santee Cooper		X	While we believe training of these personnel is appropriate, we believe training required in NERC Standards should remain focused on System Operators and not be extended to other personnel such as unit operators, field personnel, marketing personnel, engineering staff, etc.

#3 – Commenter	Yes	No	Comment
Response: The SDT has attempted to be completely clear in EOP-005, R12. If there are no tasks for field switching personnel that are different from their normal tasks, then no system restoration training is required. It is completely within the TOP's control in developing their restoration plan to define those field switching personnel tasks that are different (unique) to system restoration. As an example, if field personnel do not normally use synchroscopes except in restoration, then this would be a unique task. Switching field equipment during system restoration that is no different from normal field switching is not a unique task and no additional training would be required.			
Consumers Energy		X	See comments submitted by Midwest ISO Stakeholders Collaborators. Also, Consumers agrees that it is appropriate for the Standard to require the Generator Operator to provide training to its operating personnel. However, the Generator Operator should be allowed flexibility in determining what training is necessary to ensure it meets its obligations for System restoration. (R18) This concern was submitted previously, but the Standard Drafting Team's response did not address adequately our concerns.
Response: The SDT believes that familiarity with the overall restoration philosophy and of the specific tasks for blackstart is valuable for operators of Blackstart Resources and that the requirements are not unduly burdensome. The SDT notes that in FERC Order 693, the FERC determined that *"System restoration requires the participation of not only control room personnel but also those outside of the control room. These include blackstart unit operators and field switching operators in situations where SCADA capability is unavailable."* In FERC Order 693, the ERO is directed to identify time frames for training and review of restoration plan requirements.			
Dominion Resources Services		X	R10 does not reference training of field switching personnel. The following comments apply to R11, R12, R13, R18 and R19 of EOP-005-2 and R11 of EOP-006-2. While we support annual trainng of those who would direct restoration activities such as the Reliability Coordinator, transmission and generator operating personal in control centers, we do not support annual training of field personnel. Even during restoration, field personnel are predominately performing every day functions, although with much closer coordination/direction from operating personnel in the transmission and/or generator control centers. We recommend that the standard be modified to require periodic training of field personnel and that the period be defined in the transmission operator's restoration plan to be approved by the Reliability Coordinator. We support R19 only if it is applicable to operating personal in control centers, not field personnel. Drills involving field personnel should be coordinated with the transmission operator owning the restoration plan and should be concurrent with the testing schedule required in R9.1 and R17 and should only include generator operators of units identified in the transmisison owner's restoration plan.
Response: The requirement in question was R12. The SDT apologizes for any confusion.			

#3 – Commenter	Yes	No	Comment
The SDT has attempted to be completely clear in EOP-005, R12. If there are no tasks for field switching personnel that are different from their normal tasks, then no system restoration training is required. It is completely within the TOP's control in developing their restoration plan to define those field switching personnel tasks that are different (unique) to system restoration. As an example, if field personnel do not normally use synchroscopes except in restoration, then this would be a unique task. Switching field equipment during system restoration that is no different from normal field switching is not a unique task and no additional training would be required. The SDT notes that in FERC Order 693, the FERC determined that *"System restoration requires the participation of not only control room personnel but also those outside of the control room. These include blackstart unit operators and field switching operators in situations where SCADA capability is unavailable."* In FERC Order 693, the ERO is directed to identify time frames for training and review of restoration plan requirements.			
Dominion Virginia Power		X	We do not agree that an annual training cycle is necessary. Like many other TOs, our training and recertification program for field switching personnel is on a three year cycle. This switching recertification training is not a requirement in any NERC Reliability Standard yet we provide it because we believe it to be Good Utility Practice. We also believe that specific training on restoration-related switching tasks for field personnel will also be Good Utility Practice, and we intend to incorporate such training into our three year program. This program has proven to be more than adequate, and we see no basis or compelling reason for having to establish an annual training program specifically for restoration-related switching tasks instead of being allowed to incorporate such training into our established three year program. The FERC did not specify in Order 693 that field switching personnel be provided restoration training annually -- they only requested that they be trained. Our switchmen have proven by their performance in the field that our three year recertification program has provided excellent training. We request that Requirement R10 be revised to read: R10. Each Transmission Operator shall provide a minimum of 2 hours of System Restoration training at least every three years for field switching personnel identified as performing unique tasks associated with its restoration plan and outside of their normal tasks.
Response: The SDT believes that familiarity with the overall restoration philosophy and of the specific tasks for blackstart is valuable for operators of Blackstart Resources and that the requirements are not unduly burdensome. The SDT has reviewed the yearly requirement and has changed the requirement to every 2 years in EOP-005-2, & R12.			
Entergy Services (2)		X	R10 (as drafted) does not address training of field personnel. R12 appears

#3 – Commenter	Yes	No	Comment
			to address training of field personnel. The phrase "outside their normal tasks" just adds confusion and allows for interpretation - this phrase should be deleted.
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT has attempted to be completely clear in EOP-005, R12. If there are no tasks for field switching personnel that are different from their normal tasks, then no system restoration training is required. It is completely within the TOP's control in developing their restoration plan to define those field switching personnel tasks that are different (unique) to system restoration. As an example, if field personnel do not normally use synchroscopes except in restoration, then this would be a unique task. Switching field equipment during system restoration that is no different from normal field switching is not a unique task and no additional training would be required.			
KCPL		X	Field switching personnel may not be the only personnel that may support a restoration effort. Consider generalizing the requirement to allow the entity to identify personnel who perform unique tasks and are appropriate for training in support of simulations of the restoration plan. I think the question was targeted to R12.
SPP ORWG	X		We feel that this training should not be restricted to field switching personnel. We suggest removing the 'field switching' qualifier in the standard and then let the Transmission Operator determine who falls into the category of needing training on unique tasks performed during restoration.
Response: The SDT notes that in FERC Order 693, the FERC determined that *"System restoration requires the participation of not only control room personnel but also those outside of the control room. These include blackstart unit operators and field switching operators in situations where SCADA capability is unavailable."* An entity can always go beyond the standard and provide training to others.			
MISO (1)		X	EOP-005-2, R10 does not explain which field switching personnel needs to be trained. It explains to "distribute its Blackstart Resource testing requirements to each generator Operator in its area that operates a Blackstart Resource". R12 appears to spell out training requirements and they are satisfactory. We also notice that R18 identifies training for generator operators of Blackstart Resources. We agree that these GOPs do need training. However, we suggest deleting the two hour requirement in R18 because the content of the training is specified in the subrequirements. As long as the training provided meets the training content requirement in R18, there is no need, and it is inappropriate, to specify a required duration for the training. This content requirement is measurable and there is no need for a training duration to be added just so the requirement can be measured in this

#3 – Commenter	Yes	No	Comment
			manner.
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT believes that familiarity with the overall restoration philosophy and of the specific tasks for blackstart is valuable for operators of Blackstart Resources and that the requirements are not unduly burdensome. The SDT has reviewed the yearly requirement and has changed the requirement to every 2 years in EOP-005-2, R12 & R18. The SDT believes that a minimum duration for this training is appropriate as it is not covered in the current training standards.			
Northeast Utilities		X	We believe the reference should be to R12 - And recommend it be rewritten as follows: R12. Each Transmission Operator shall perform a job/task analysis for field switching personnel identified as performing unique tasks associated with its restoration plan and outside their normal task. Required training should be included in initial and continuing training programs for field personnel. Explanation: NU follows the systematic approach to training, which is a Training industry standard followed by most training organizations and a recommended approach to determine training requirements by other federal agencies, such as the NRC. This approach would evaluate all field employees with field switching responsibilities to determine the knowledge and skills necessary to perform restoration requirements by job position. This process would identify both initial and continuing training requirements for job positions and assist NU in determining if changes are necessary to our apprentice programs, annual retraining programs, and/or any supervisor/manager training programs. The results of this analysis would also identify the method and setting (classroom/ field/simulator) of the training for each affected position. This approach also allows for differences between each operating company based on past labor practices, current system operating procedures, and adds rigor to the training program recommendations. This documented analysis would be used if job responsibilities for field personnel changed in the future.
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT believes that to require a JTA would be unduly burdensome and not required in this situation.			
OVEC		X	This is R12, not R10. This requirement could apply to all field personnel since restoration activities would be considered to be "unique tasks" and "outside of their normal tasks", since (we hope) restoration is not something done routinely. It could be extremely burdensome to provide training to every individual who might conceivably be involved in restoration. Also, the language from FERC Order 693 cited by the SDT states, "System restoration requires the participation of not only control room personnel but also those

#3 – Commenter	Yes	No	Comment
			outside of the control room. These include blackstart unit operators and field switching operators in situations where SCADA capability is unavailable. As such, the Commission believes that inclusion of periodic system restoration drills and training and review of restoration plans in a system restoration Reliability Standard is the most effective way of achieving the desired goal of ensuring that all participants are trained in system restoration and that the restoration plans are up to date to deal with system changes." This citation can be interpreted as a statement of the collective beliefs of the Commission, but there is no requirement language present in this citation.
PPL Generation LLC		X	This question references R10 however, R12 is the requirement for training field switching personnel. The training described in R12 applies to the TO. PPL requests that additional clarification be added to the standard concerning this requirement that further specifies what training is required and specifically what personnel need the training.
We Energies	X	X	R10 relates to the TOP providing the plan to the GOP. R11 relates to training for TOP personnel. R12 relates to training field personnel. The assumption here is we're primarily after training on synchronizing scopes. Suggest that any specific training desired be called out here.
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT has attempted to be completely clear in EOP-005, R12. If there are no tasks for field switching personnel that are different from their normal tasks, then no system restoration training is required. It is completely within the TOP's control in developing their restoration plan to define those field switching personnel tasks that are different (unique) to system restoration. As an example, if field personnel do not normally use synchroscopes except in restoration, then this would be a unique task. Switching field equipment during system restoration that is no different from normal field switching is not a unique task and no additional training would be required.			
San Diego Gas and Electric		X	In the latest version, this is R12. Change "and" to "that are" in the end of sentence. See below: Each Transmission Operator shall provide a minimum of two hours of System restoration training per year for field switching personnel identified as performing unique tasks associated with its restoration plan that are outside of their normal tasks. [Violation Risk Factor = Lower] [Time Horizon = Operations Planning]
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT made the suggested change.			
WECC RCCWG		X	The WECC RCCWG is unclear as to which requirement, EOP-005-d2 R11 or EOP-006-d2 R10, question 3 refers to because the reference in the question

#3 – Commenter	Yes	No	Comment
			to R10 in EOP-005-d2 refers to personnel requiring training, while R10 of the draft standard addresses distribution of Transmission Operator "Blackstart Resource testing requirements". R10 of EOP-006-d2 does refer to training of personnel. The WECC RCCWG recognizes concerns with the standard requirements referencing training in both of these documents, and addresses each, below: In EOP-005d2 R11 it is not clear what personnel the term "control room personnel" refers to. What control room? Does this refer only to positions that are certified system operators? In EOP-006-d2 R10 the RC is required to include control room personnel identified in its restoration plan. Again, the intention of the extent of the personnel to be trained is not clear. It is unclear whether there is an expectation that each and every control room operator from every company is expected to be trained. The RCCWG does not believe it is reasonable to believe that the Reliability Coordinator will train every person in every control room that is identified in the Reliability Coordinator restoration plan.
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT has changed EOP-005-2, R11 to clarify that the intent is to train the System Operators. Certification is beyond the scope of the SDT. A similar change was made to EOP-006-2, R10.			
Pacific Gas and Electric	X	X	The numbering seems to be off, so if you are referring to R12 then we agree, however, is R12 only associated with blackstart versus completion of restoration?
Response: The requirement in question was R12. The SDT apologizes for any confusion. The unique tasks identified in the restoration plan are not necessarily related to blackstart versus completion of restoration.			
MHEB	X		The question should refer to R12 not R10. To allow for times when personnel are not available for training, we think this should be changed to every two years.
Response: The requirement in question was R12. The SDT apologizes for any confusion. The SDT has changed the requirements in question to every two years.			
MRO	X		EOP-005-02_R11, EOP-006-02_R10 should clarify that the control room personnel referenced are system operations control room personnel.
Response: The SDT has changed the reference to System Operator as suggested.			
Exelon Corp.			No comment.

#3 – Commenter	Yes	No	Comment
Southern Company Generation			No comment.
Duke Energy	X	X	It is actually R12. We agree with the change.
Bonneville Power Administration	X		This refers to R12 (not R10)
Entergy Services (1)	X		
Hydro One Networks	X		It is actually R12 in our copy version.
IESO	X		If you meant R12.
ISO New England	X		If you meant R12.
ISO/RTO Council	X		If you meant R12.
MISO (2)	X		If you meant R12.
NPCC RSC	X		R12 references training of field personnel.
Oncor	X		
Potomac Electric Power Company	X		
Reliant Energy	X		I could not find any reference to field s witching personnel in R10 of EOP-005-2 so I am assuming that the SDT means R12.
Southern Company Transmission	X		
Western Area Power Administration	X		R12 not R10
Xcel Energy	X		
Response: The requirement in question was R12. The SDT apologizes for any confusion and thanks you for your comment.			

4. The SDT has added Violation Risk Factors and Time Horizons to both standards. Do you agree with the assignments made? If not, please explain in the comment area.

Summary Consideration: The SDT has revised the VRFs in EOP-005-2 based on the collective input of the industry comments as follows:

- o R8: Medium to High
- o R14: High to Medium
- o R15: High to Medium

In addition, the SDT revised the Time Horizon for EOP-005-2, R11 from Long-term Planning to Operations Planning based on industry comments.

EOP-005-2, R16 has been changed to a 24 hour timeframe.

#4 – Commenter	Yes	No	Comment
Consumers Energy Duke Energy MISO (1)		X	The VRF for EOP-005-02, R1 should be medium. Failure to have a formal restoration plan approved by the RC does not lead directly to a failure of the BES. EOP-005-2, R14 should be Lower. It is a requirement to have a document. Failure to have the document is not a risk to the BES. Failure to have an agreement presents no signficant risk to the BES.. An agreement is not necessarily a document though per NERC glossary of terms. EOP-005-2, R15 should be Lower. It is also a requirement to have a document. Failure to have documented procedures does not mean that the GOP is not capable of starting a Blackstart Resource and energizing a dead bus. It simply means they haven't written the procedure down. Failure to document a procedure presents no significant risk to the BES. The VRF for EOP-006-2, R1 should be medium. Failure to have an RC restoration plan does not lead directly to a failure of the BES. The TOP plans will still work but not as efficiently. If this was not the case, how did TOPs ever recover from a blackout prior to the introduction of the RC funciton. The VRF for EOP-006-2, R5 should be lower. Failure of the RC to review the TOP plans will only result in inefficient restoration.
Response: Commenters are looking at the plan as a simple document and thus an administrative requirement. The SDT agreed that this was not the case. The plan represents the planning function that goes into creating the document and thus has a much greater impact than a simple piece of paper. If the planning hasn't been done correctly, major problems will ensue on the BES during restoration. Therefore, the SDT did not change the VRF. EOP-005-2, R14 & R15, have been changed.			
Dominion Resources Services		X	We recommend that R14 and R15 of EOP-005 be changed to medium. For the majority of approved standards, written documentation has not warranted a high VRF.
Southern Company Generation		X	It is not apparent why R14 and R15 are ranked higher than most of the

#4 – Commenter	Yes	No	Comment
			other requirements. Thus, a medium risk factor is recommended for both.
Response: The VRF for EOP-005-2, R14 & R15 have been changed based on industry input.			
Entergy Services (2)		X	The "High" for R1 is not warranted. Not having a plan for restoration does not threaten the reliability of the Interconnection, especially since the affected area is already disconnected. Steps for synchronizing to the Interconnection (EOP-005 R8) should be rated as High however the entire plan should not.
Response: The VRF for EOP-005-2, R8 has been changed based on industry input. The SDT believes that the VRF for EOP-005-2, R1 is assigned correctly. Commenters are looking at the plan as a simple document and thus an administrative requirement. The SDT agreed that this was not the case. The plan represents the planning function that goes into creating the document and thus has a much greater impact than a simple piece of paper. If the planning hasn't been done correctly, major problems will ensue on the BES during restoration. Therefore, the SDT did not change the VRF.			
FRCC		X	EOP-005 R1. requires a document. A lack of a document would never lead to cascading outage or prevent restoration (Medium at amost). R3 and R4 should be Lower. R6 should be Lower, any requirement with a 5 year cycle is inherently Lower. R8 is a performance requirement and critical during restoration, therefore should be High. R11 should be Lower as this is an administrative requirement on training. R14 requires an "Agreement" and is therefore administrative and should be Lower. R15 is procedural and should be at most Medium. R18 is an administrative training requirement is should therefore be Lower. EOP-006, R3, R4 and R5 are all administrative requirements and should therefore all be Lower.
Response: EOP-005-2, R1: The SDT believes that the VRF for EOP-005-2, R1 is assigned correctly. Commenters are looking at the plan as a simple document and thus an administrative requirement. The SDT agreed that this was not the case. The plan represents the planning function that goes into creating the document and thus has a much greater impact than a simple piece of paper. If the planning hasn't been done correctly, major problems will ensue on the BES during restoration. Therefore, the SDT did not change the VRF. The VRF for EOP-005-2, R8, R14, and R15 have been changed based on industry input. The SDT reviewed the other suggested changes and does not believe that there is any reason to change the currently assigned VRF.			
KCPL		X	EOP-005-2: R2 is Lower so R3 should be Lower. R8 is Medium and should be High. Resynchronization is no small action and can be fatal to a restoration effort if done improperly and without the

#4 – Commenter	Yes	No	Comment
			approval of the RC who has a regional view. It is High for the RC in EOP-006-2, R8. R14 is High and should be Lower. This is an administrative requirement and does not have a substantial impact on system operations. EOP-006-2: R2 is Lower so R3 should be Lower. R9 should be High. Dessiminating regional information is an important part of a successful restoration effort and in coordinating a successful restoration effort at a regional level.
Response: The SDT reviewed the suggested changes and does not believe that there is any reason to change the currently assigned VRF.			
PPL Generation LLC		X	PPL Supply is not clear on the purpose of the Time Horizons as defined here.
Response: As per the NERC Reliability Standards Guidelines, the SDT is required to provide a Time Horizon for each requirement. From the Sanctions Guidelines, page 9: "*Penalties levied for the violation of a reliability standard shall consider the time horizon of the standard violated; violations of standards involving more immediate or real-time activities will generally incur larger penalties than violations of standards with longer or broader horizons.*"			
SPP ORWG		X	EOP-005-2, R.3 - We believe this multi-part requirement is correct in assigning a medium VRF to the review of the plan but feel that a medium VRF is too high for the administrative task of submitting the plan to the RC. EOP-005-2, R.5 - Having a copy, written or electronic, of the plan available to the operator in the control center is critical. This VRF should be 'High'. EOP-005-2, R.8 - Should be a 'High' VRF to be consistent with R.8 of EOP-006-2. EOP-005-2, R.12 - Training of personnel is important to a successful restoration. For consistency with R.18, this VRF should be 'Medium'. EOP-005-2, R.14 - This requirement is administrative and should have a 'Low' VRF. EOP-006-2, R.9 - This is a real-time operational function that is critical to restoration. The VRF should be 'High'.
Response: VRFs for EOP-005-2, R8 and R14, have been changed based on industry input. The SDT reviewed the other suggested changes and does not believe that there is any reason to change the currently assigned VRF.			

#4 – Commenter	Yes	No	Comment
WECC RCCWG		X	The Time Horizon for EOP-005-d2 R11 the requirement to hold annual System restoration training for control room personnel is listed as "Long-term Planning" and is a requirement of the operations training program. The EOP-006-d2 R10 requirement that Reliability Coordinator annual System restoration training be included within its training program is identified as "Operations Planning". The WECC RCCWG believes that both requirements should have the same Time Horizon and believes that "Operations Planning" is appropriate. Additionally, the group believes that the Violation Risk Factor for EOP-005-d2 R14 should be "low". There does not seem to be more impact on system reliability from violation of this requirement than from violation of requirements 2, 5, or 10. The Violation Risk Factor on EOP-005-d2 R18 should be "low", giving consistency with R12 of the same document.
Response: The Time Horizon for EOP-005-2 R11 Time Horizon has been changed to “Operations Planning”. VRF for EOP-005-2, R14, has been changed based on industry input. The SDT reviewed the other suggested changes and does not believe that there is any reason to change the currently assigned VRF.			
Western Area Power Administration		X	EOP-005-2, R16 allows a GO ninety calendar days to report a change to blackstart unit capability. Notification to the TO within thirty calendar days seems more appropriate.
Response: Language has been changed to 24 hours to reflect the reliability-related need for the information			
Xcel Energy		X	There seem like an inordinante number of requirements (and hence VRFs) in these standards.
Response: The SDT believes that the number of requirements is what is needed to sufficiently describe the reliability standard. As per the NERC Reliability Standards Guidelines, the SDT has assigned one VRF to each requirement.			
Hydro One Networks IESO ISO New England ISO/RTO Council NPCC RSC	X	X	We agree with all of the VRFs and Time Horizon except the followings: EOP-005 R1: The VRF should be medium. Failure to have a formal restoration plan approved by the RC does not lead directly to a failure of the BES. R11: The Time Horizon should be Operations Planning since this requirement deals with inclusion of restoration training in the operator training program. R14: The VRF should be low. Not having a documented agreement on the arrangement of utilizing the Backstart Resource is not a risk to the BES, and has a lower reliability impact than its R2, R5 and R10 counterparts.

#4 – Commenter	Yes	No	Comment
			R15: The VRF should be Lower. It is also a requirement to have a document. Failure to have documented procedures does not mean that the GOP is not capable of starting a Blackstart Resource and energizing a dead bus. R18: The VRF for this requirement (Medium) should be consistent with that of R12 (Lower) since both deal with providing a 2-hour training to the personnel responsible for performing critical tasks during system restoration. EOP-006 R1: The VRF should be medium. Failure to have an RC restoration plan does not lead directly to a failure of the BES. The TOP plans will still work but not as efficiently. If this was not the case, how did TOPs ever recover from a blackout prior to the introduction of the RC functon. R5: The VRF should be lower. Failure of the RC to review the TOP plans will only result in inefficient restoration. R9: The VRF for this requirement should be a Medium, not a Lower. A Reliability Coordinator serving as the primary contact for disseminating information regarding restoration to neighboring Reliability Coordinators, and to operating entities within its RC area is critical to ensuring consistent and correct information among all parties involved in system restoration
Response: The Time Horizon for EOP-005-2 R11 Time Horizon has been changed. VRF for EOP-005-2, R14 & R15, has been changed based on industry input. The SDT reviewed the other suggested changes and does not believe that there is any reason to change the currently assigned VRF.			
MHEB	X	X	EOP-005 and EOP-006 R8 in both standards talk about synchronizing with neighbouring areas but the VRF is different EOP-005 is medium, EOP-006 is high, I believe they should have the same VRF.
Response: VRF for EOP-005-2, R8, has been changed based on industry input			
MISO (2)	X	X	We disagree with the following: R14: The VRF should be low. Not having a documented agreement on the arrangement of utilizing the Backstart resource has no higher impact on reliability than its R2, R5 and R10 counterparts. R18: The VRF for this requirement (Medium) should be consistent with that

#4 – Commenter	Yes	No	Comment
			of R12 (Lower) since both deal with providing 2-hour training to the personnel responsible for performing critical tasks during system restoration.
Response: VRF for EOP-005-2, R14, has been changed based on industry input. The SDT believes that R18 has been assigned correctly.			
Reliant Energy	X		We would like to offer comments on R18 and R19 of EOP-005. R18.1 states System restoration philosophy including coordination with the Transmission Operator. R18.2 states Special actions required to enable blackstart and synchronization to the System. Comment: R18.1 is vague and confusing. What would an auditor be looking for as the "restoration philosophy" when measuring compliance? The requirement in R18.2 is redundant since special action would be covered in the training in R18. A special action to one generator may be routine to another. It is unit dependent. It is recommended that the SDT drop R18.1 and 18.2 from the standard. R19 states Each Generator Operator shall participate in the Reliability Coordinator's restoration drills, exercises, or simulations as requested by the Reliability Coordinator. Comment: R19 requires a generator to participate but M18 states that "Each Generator Operator shall have evidence, such as training records, that it participated in the Reliability Coordinator's restoration drills, exercises, or simulations IF requested to do so in accordance with Requirement R19. If the GO is not requested to participate is the GO in compliance with R19. At times it appears that a TO is very reluctant to include the GO for fears of being in violation of FERC requirements of separation of merchant generation functions and transmission functions.
Response: EOP-005-2, R18: The requirements here parallel those for the TOP. The SDT believes that they are measurable and enforceable. EOP-005-2, R19: The GOP only has to participate if requested by the TOP and therefore can only be found to be non-compliant if it does not participate when requested. The SDT has written the requirements in such a way as to encourage the TOP to invite the GOP. That is as far as the scope of the SDT can ago in this matter.			
Ameren			No comment.
American Electric Power			No comment.
ATC LLC	X		

#4 – Commenter	Yes	No	Comment
Bonneville Power Administration			No comment.
CenterPoint Energy			No comment.
Con Edison			No comment.
Constellation	X		
Dominion Virginia Power	X		
Entergy Services (1)	X		
Exelon Corp.			No comment.
FirstEnergy	X		
Madison Gas and Electric	X		
MRO	X		
Northeast Utilities			No comment.
OVEC			No comment.
Oncor	X		
Pacific Gas and Electric	X		
Potomac Electric Power Company	X		
San Diego Gas and Electric			No comment.
Santee Cooper	X		
Southern Company Transmission	X		
Tampa Electric Company	X		
We Energies	X		
Response: Thank you for your comment.			

5. The SDT has added an Implementation Plan. Do you agree with the proposed Implementation Plan? If not, please identify specifically what you feel needs to be modified in the comment area.

Summary Consideration: Due to industry comments, the Implementation Plan has been completely re-written to emphasize milestones and an orderly transition.

EOP-005-2:

- **R1.1:** A description of the manner in which ~~obligations~~ Agreements for off-site power requirements of nuclear power plants will be fulfilled during System restoration.
- **R1.6:** ~~A statement accounting for the possibility that restoration can not be completed as expected indicating that in situations where the actual conditions do not match the studied conditions, the System Operator shall use professional judgment to deviate from the System restoration plan.~~ (this refers to R1.6 in the second posting).
- **R2:** Each Transmission Operator~~, in order to ensure the reliability of the Interconnection~~, shall distribute its approved restoration plan to the reliability-related operational entities identified in its restoration plan~~, and to it's Reliability Coordinator~~ within thirty calendar days of having received approval from its Reliability Coordinator.
- **R3:** Each Transmission Operator shall review its restoration plan and submit it to its Reliability Coordinator ~~on an annual (rolling 365 days) basis~~ annually on a mutually agreed predetermined schedule.
- **R6.1:** The ~~ability~~ capability of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and to supply initial Loads.
- ~~o~~ **R6.2:** The location and magnitude of Loads required to control voltages and frequency within acceptable limits ~~required to stabilize the Blackstart Resources and other resources being utilized until the restoration state has ended.~~
- **R6.3:** The ~~Loads and~~ capability of generating resources required to control voltages and frequency within acceptable limits ~~(documented in Requirement R1.5) as the BES is restored.~~
- **R7.2:** ~~Each affected Transmission Operator shall give high priority to restoration of off-site power to nuclear power plants as directed by the Reliability Coordinator and in agreement with reliability standard NUC-001.~~ deleted (this refers to R7.2 in the second posting).
- **R7.4:** If the restoration plan cannot be completed as expected because actual conditions do not match the studied conditions, the Transmission Operator shall utilize its restoration plan philosophies to implement alternative measures for achieving System restoration.
- **R8:** Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, the Transmission Operator shall resynchronize ~~shut down~~ area(s) with neighboring Transmission Operator area(s) only with the authorization of the Reliability Coordinator or in accordance with the established procedures of the Reliability Coordinator.
- **R9.2.2:** The ability to energize a ~~dead (de-energized)~~ bus. If it is not possible to energize a ~~dead (de-energized)~~ bus during the test, the testing entity must affirm that the unit has the capability to energize a ~~dead (de-energized)~~ bus such as verifying that the breaker close coil relay can be energized with the voltage and frequency monitor~~s~~ controls disconnected.

- **R11:** Each Transmission Operator shall include within its operations training program, annual System restoration training to its ~~control room personnel~~ System Operators to ensure the proper execution of its restoration plan. This training program shall include the following:
- **R11.1:** System restoration philosophy including coordination with the Reliability Coordinator and Generator Operators included in the restoration plan.
- **R14:** Each Transmission Operator and Generator Operator with a Blackstart Resource shall have a written Blackstart Resource ~~a~~Agreement ~~document~~ specifying the terms and conditions of their arrangement. Such Agreements shall include references to the blackstart testing requirements.
- **R16:** Each Generator Operator of a Blackstart Resource shall notify its Transmission Operator of any known changes to the capabilities of that Blackstart Resource within ~~ninety calendar days~~ twenty-four hours following such change.
- **R18** Each Generator Operator of a Blackstart Resource shall provide a minimum of two hours of training ~~per year~~ every two years to each of its operating personnel responsible for the startup and synchronization of its Blackstart Resource generation units. The training program shall include the following:

EOP-006-2:

- **R1.6:** A statement accounting for the possibility that restoration can not be completed as expected indicating that in situations where the actual conditions do not match the studied conditions, the System Operator shall use professional judgment to deviate from the System restoration plan. deleted (this refers to R1.6 in the second posting).
- **R2:** The Reliability Coordinator~~, to ensure the reliability of the Interconnection,~~ shall distribute its Reliability Coordinator Area restoration plan to its Transmission Operators, Balancing Authorities, and neighboring Reliability Coordinators.
- **R3:** Each Reliability Coordinator shall review its restoration plan every twelve months ~~on an annual (rolling 365 days) basis~~.
- **R6:** Each Reliability Coordinator shall have a copy its latest restoration plan and a copy of the latest approved restoration plan of each Transmission Operator in its Reliability Coordinator Area within each of its control centers and available to all of its control room personnel.
- **R7:** ~~Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, each~~ Each Reliability Coordinator shall work ~~in conjunction~~ with affected Balancing Authorities, Generator Operators, and Transmission Operators as well as neighboring Reliability Coordinators to monitor restoration progress, coordinate restoration, and take actions to restore the BES frequency within acceptable operating limits. Such actions may include but not be limited to adjusting generation, placing additional generators on line, or shedding Load.
- **R7.1:** If the restoration plan cannot be completed as expected because actual conditions do not match the studied conditions, the Reliability Coordinator shall utilize its restoration plan philosophies to implement alternative measures for achieving System restoration.
- **M11:** Each Reliability Coordinator shall have evidence that it conducted two System restoration drills, exercises, or simulations per year and that ~~included~~ Transmission Operators and Generator Operators ~~with Blackstart resources~~ included in the restoration plan were invited in accordance with Requirement R11.

#5 – Commenter	Yes	No	Comment
American Electric Power		X	
Response: Thank you for your comment but without specific objections, no changes can be made.			
Constellation		X	R6 states that verification of the restoration plan is required every 5 years. The Implementation Plan states that all other TOP requirements are effective 12 months after regulatory approvals. Will R6 be enforceable within 1 year or 5 years after regulatory approvals? OTHER COMMENTS 1 - EOP-005-2 R1, the standard requires that the Transmission Operator have their plan reviewed and approved by its Reliability Coordinator. In some cases, the Transmission Operator and the Reliability Coordinator may be the same organization. In this situation the RC may be approving their own plan. 2 - EOP-005-2 R6.1, 6.2, and 6.3: the requirements are not clear. Does this require us to validate cranking paths to energize a dead bus, energize a transformer or circuits to start a steam unit, or complete system restoration? 3 - EOP-005-2 R9.2.2: It would have been clearer if the standard simply required testing the breakers ability to close on a dead bus or simulating the conditions of a dead bus by removing the synchronizing inputs. 4 - EOP-006-2: As written, this requirement does not cover all situations. In some cases, the Transmission Owner also possesses a restoration plan in addition to the Transmission Operator. A simple fix would be to replace "Transmission Operator" with "Transmission Operator / Transmission Owner" throughout the document. 5 - EOP-006-2 R11.1 requires each operator to participate in a restoration drill once every 2 years. However, there is not any corresponding measurement for this requirement.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition over a 720 day period after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. 1. The intent is to assure that the RC has had input to the TOP's restoration plan. If a RC is also a TOP, they are permitted to approve their own plan. 2. The SDT believes that the requirements are sufficiently clear on this issue. What needs to be done has been identified. The standards do not mandate how things need to be done. The measure provides a suitable example of required evidence. 3. The SDT considers the current language to be the equivalent of what was suggested and no change has been made.			

#5 – Commenter	Yes	No	Comment
4. The standard applies to the TOP. If a TOP has delegated tasks to the TO, the TOP needs to assure that the TO has properly executed the tasks to assure that the TOP is compliant. 5. EOP-006-2, R11.1 is the requirement to request participation. EOP-005-2, R12 & R18 are the requirements for TOP & GOP participation.			
Consumers Energy		X	See comments submitted by Midwest ISO Stakeholders Collaborators. In addition, the following concerns are addressed here, as the form did not provide a section for additional concerns, specifically: (R1.4) The Transmission Operator needs to coordinate with the Generator Operators when identifying acceptable operating voltage and frequency limits during restoration. Generator underfrequency relaying and terminal bus voltage limits will affect the acceptable limits. (R4.1) The Transmission Operator needs to communicate changes in the restoration plan that affect Generator Operators of the blackstart units and Generator Operators of generating units in the cranking path. (R9, R10, R17) The Regional Reliability Organization should specify the Blackstart Resource testing requirements rather than the Transmission Operator so the testing requirements follow the RRO Standard Development procedure process (See MOD-024-1, MOD-025-1). If the Transmission Operator does gain the authority to establish the testing requirements, the testing requirements need to be mutually agreed upon by the generator operator to ensure that (a) the testing requirements are feasible and (b) the testing requirements do not create a significant financial burden on the Generator Operator. (R14) What occurs if the Transmission Operator and Generator Operator cannot come to agreement on the terms and conditions of a Blackstart Resource Agreement? Is the Generator Operator subject to unreasonable testing requirements and unreasonable financial compensation mandated by the Transmission Operator? (R17.1) The Generator Operator does not have information relating to testing requirements not met under Requirement R6. Requirement R6 is a Transmission Operator requirement.
Response: R1.4: EOP-005-2, R14 provides a mechanism for the TOP and GOP to coordinate the restoration plan with the			

#5 – Commenter	Yes	No	Comment
capabilities of the generators. R 4.1: EOP-005-2, R2 and R14 provide for the notification of any changes in the restoration plan to affected parties. R9, R10, and R17: The SDT does not believe that uniform testing requirements can be set across North America. There are too many regional and geographic variables involved. Therefore, it seems to make more sense to allow the TOP to set these requirements. If the TOP testing requirements are too stringent, then they will be unable to attract GOPs as Blackstart Resources. Common sense will prevail. R14 - If the TOP and the GOP cannot agree, then the GOP resource will not sign the Agreement and they will not be a Blackstart Resource and the TOP must make other arrangements. R17.1 – EOP-005-2, R6 is not the correct reference. It should have been EOP-005-2, R9. The correction has been made and this should clarify the issue.			
Dominion Resources Services		X	The proposed Implementation Plan lacks clarity as to the potential sequence of effective dates relative to development of plans, development of agreements, training of personnel, review and validation of plans, and participation in drills. It is stated that 005-R1 (the restoration plan) will be enforceable 21 months after applicable regulatory approvals. 005-R7 (Disturbance/Shutdown) suggests that TOs be prepared to implement blackstart plans within 6 months after regulatory approvals or be subject to non-compliance. Further, all other TOP requirements are not subject to compliance and enforcement penalty for at least 12 months after applicable regulatory approvals. We believe that it is the intent of these two standards to ensure the necessity to have good communication protocols along with thoroughly disseminated documentation, coordination and training for system restoration. Therefore, the effective dates for compliance of EOP-005 & EOP-006 standards should follow the same systematic process, with the earliest effective date be applied to EOP-005 @ R1 and other effective dates occurring sequentially thereafter. These effective dates need to recognize that transmission operators must be trained before they can be expected to implement and that transmission owner review and validation of plans needs to occur at some later date. The effective dates for generator operator requirements also needs to be applied sequentially. There first needs to be an agreement between transmission operator and generator operator followed by development of generator operator procedures followd by training of generator operators to be followed, at a later date, by drill partcipation, testing and notification of changes. We could support effective dates for development of restoration plans and agreements (R1, R2, R9, R10, R14) within 6 months of regulatory approval, followed by an additional 6 months for effective dates for

#5 – Commenter	Yes	No	Comment
			development of generator operating procedures and training of control room operating personnel (R5,R11, R12, R15, R18) followed by an additional 6 months for effective dates for validation/review of plans and implementation (R3,R4,R6,R7,R8,R13,R17)
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
Dominion Virginia Power		X	1) In general, the Implementation Plan is too long. Most of the requirements in these two standards already exist to some extent in the current standards, so it shouldn't take a year or more after regulatory approval to comply. 2) For EOP-05-2, the requirement to have a plan, R1, is effective 21 months after regulatory approval; however, the requirement to use that plan, R7, is effective 6 months after approval. They should both be effective at the same time -- within 6 months or less. 3) In EOP-005-2, the requirement to have procedures for starting a Blackstart Resource, R15, is effective 12 months after regulatory approval; however, the requirement to start a resource for testing purposes, R17, is effective 6 months after regulatory approval. They should both be effective at the same time -- within 6 months or less.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
Duke Energy		X	On EOP-005-2, R12, should increase implementation time to 18 months.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
Entergy Services (2)		X	The timing of the phased in implementation appears to cause confusion. How can an entity comply with R 4 and 5 (update its restoration plan, and have a copy of its restoration plan in the control center) if it isn't even required to have one? How can an entity be responsible for implementing it's restoration plan (R7) if R1 isn't required for another 15 months? Suggest making 12 months after regulatory approvals the effective date for all requirements.

#5 – Commenter	Yes	No	Comment
			Other Comments: R9 still does not address the question as to if there are there any fuel supply requirements for a Blackstart Resource? The test should indicate if the test must be performed on the fuel that would be used during a blackstart. Must the fuel supply be able to support a certain length of operation without support from the BES? Are pipelines acceptable sources, or are their certain requirements that would apply if a pipeline were the fuel supply? The phrase in EOP-005 & 006 R1.6 regarding the ability for the operator to use judgment is not appropriate. Each entities' procedures and policies should dictate the operator actions when conditions outside of studied conditions occur. Consider changing the statement to read "...the System Operator will follow it's entity's policy to deviate from the System restoration plan" or strike it entirely.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. R9: The SDT believes that each TOP should have the authority and flexibility to determine fuel capability requirements on an individual Blackstart Resource basis and that it should be included in the terms and conditions of the Blackstart Resource Agreement (R14). These terms and conditions should be addressed in plan review (R3) and verification (R6) of the restoration plan, i.e., Blackstart Resources must be shown as being able to support the intended function. R1.6: This requirement has been deleted in both EOP-005-2 and EOP-006-2 and added to R7 to address industry concerns.			
FRCC		X	The Implementation Plan does not address the retirement of EOP-007 and EOP-009 which is a key element of these standard revisions. The Plan will also introduce confusion for Compliance and Enforcement. It may be simpler to make the whole standard effective 21 months after regulatory approval so that all parties involved (entities and compliance) understand which requirements will be audited to, especially during the transition to the revised versions of EOP-005 and 006. ** Additional Comments (not related to question 5): ** EOP-005, R2, suggest removing "to ensure the reliability of the interconnection" from the requirement as extraneous and redundant. EOP-005 and 006, R3, request that the DT select either "annual" OR "rolling 365 days" since having both establishes a definition for "annual" with wide ranging impacts across various other standards.

#5 – Commenter	Yes	No	Comment
			EOP-005 R8, has a provision for re-synchronization with established procedures of the RC, while EOP-006 R8 does not have the same provision. We feel this may cause confusion. EOP-006 R5.2, imposing a 30 day review requirement on the RC will impose a significant administrative and logistical burden on the RCs. we recommend that this be a 90 day review requirement which is consistent with the RC plan review requirement.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. EOP-005-2, R2 - the language has been deleted EOP-005-2 & EOP-006-2, R3: the language has been changed - "rolling 365 days" was deleted. EOP-006-2, R8: EOP-006-2, R1.4 already requires the RC to establish the conditions for resynchronization. EOP-006-2, R5.2: The SDT believes that 30 days is sufficient time to approve or disapprove the TOP plan. Sequential steps with considerable times will delay the implementation of an approved restoration plan.			
KCPL		X	Implementation comments: This is confusing to me. The implementation plan for EOP-005-2 has the final plans coming last with training and modifications before that. I think it would make more sense to develop the plans and complete them first, followed by training, followed by reviewing and modifying the completed plans in appropriate implementation time frames after regulatory approval. EOP-006-2 has all the requirements implemented in 18 months after regulatory approval. I think the implementation plan should be similar to the comments for EOP-005-2 to develop the plans, followed by training, followed by reviewing and modifying in appropriate implementation time frames after regulatory approval. The implementation time frames proposed here may be a bit long considering entities have plans already established. This may be an area where the implementation time frame can be accelerated. General Comments: 1. In EOP-005-2, requirement R3 clearly states the RC should be provided a copy of an entities emergency restoration plan. R2 also includes the RC as an entity an entity should provide a copy of its emergency restoration plan. I suggest removing the RC reference in R2.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the			

#5 – Commenter	Yes	No	Comment
third draft. EOP-005-2, R3: The SDT agrees that this appears redundant at first glance but the 2 requirements are somewhat different – one is for submittal to gain approval of the RC and the other is distribution of that approved plan.			
MISO (1)		X	The implementation plan for the standard EOP-005 is confusing, regardless of the type of entity. For example, a transmission operator has 21 months after regulatory approval of this EOP-005-2 standard to have an approved restoration plan (See R1) but R7 indicates that this transmission operator shall implement its restoration plan 6 months after regulatory approval of this EOP-005-2 standard. It's our hope that both of the transmission operator and generator operator's restoration plans will be in synch with the associated reliability coordinator's restoration plan and that the reliability coordinator agrees to both of the transmission operator and generator operator restoration plans before they are implemented or utilized in any fashion.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
MRO		X	The MRO believes the time line for the implementation plan should be a stepped process with the transmision operator and generator operator restoration plan (EOP-005-02_R1) should be developed first, then training, maintenance, testing (EOP-005-02_R2-R19 & EOP-006-02_R2-R11) should follow, then followed finally by the reliability coordinator area restoration plan (EOP-006-02_R1). The transmission operator and generator operator restoration plans need to be approved prior to the reliability coordinator resotration plan. General Comments: EOP-005_R3: What was the SDT reason for using a rolling 365 day timeframe instead of a calendar year? The MRO is concerned that the rolling 365 day schedule will cause encroachment of the timeframe. The MRO suggests using rolling 13 months or 395 days to accommodate scheduling. The MRO is concerned the RC will be continually receiving and updating their restoration plan, causing each transmission operator to update their restoration plan. Due to this continual updating the system operators will find it difficult to train to the latest restoration plan. EOP-005-02_R12: Please clarify the intent of this requirement. What would be considered "unique tasks" for field switching? The MRO believes

#5 – Commenter	Yes	No	Comment
			that these switching orders are no different than non-restoration switching orders performed on a daily basis. Is the intent for training all field personnel?
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. EOP-005-2, R3: Language has been changed and the phrase, "rolling 365 days" has been deleted. EOP-005-2, R12 - The SDT has attempted to be completely clear in EOP-005, R12. If there are no tasks for field switching personnel that are different from their normal tasks, then no system restoration training is required. It is completely within the TOP's control in developing their restoration plan to define those field switching personnel tasks that are different (unique) to system restoration. As an example, if field personnel do not normally use synchroscopes except in restoration, then this would be a unique task. Switching field equipment during system restoration that is no different from normal field switching is not a unique task and no additional training would be required.			
PPL Generation LLC		X	PPL Supply does not agree with the phased-in criteria identified for Generator Operators. The criteria in this version of the Implementation Plan is based on regulatory appoval. However, the generator requirements cannot be satisfied until the GO has received the approved restoration plan and understands the content of the agreement in R14. PPL recommends that the Implementation Plan for GO's should be based on the date when the RC has provided an approved resortoration plan and established the agreement with the TO as referenced in R14. Additional comments - PPL Supply provides these additional comments on EOP-005 not related to the questions above. R9.2: PPL Supply suggests that the SDT use the word facility in place of the word unit in Requirement R9.2 to provide clarity and consistency with other requirements in the standard. R14: PPL suggests that NERC provide guidance to aid in the development of the agreements. Also, provide clarification specifying if the agreement must be a separate document or if existing tarrif agreements are sufficient. R19: PPL requests more clarification of what level of participation is required to meet this action.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			

#5 – Commenter	Yes	No	Comment
EOP-005-2, R9.2: The SDT believes that unit is the correct wording. EOP-005-2, R14: Language has been changed to 'Agreement' which is a defined term and thus clarifies what needs to be done. EOP-005-2, R19: The SDT believes that the RC should have the flexibility and authority to invite the personnel that they feel are needed and that this is current practice.			
Southern Company Transmission		X	The implementation plan excludes the BA function. We strongly urge the SDT to include the BA as applicable to this standard.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. The SDT believes that the BA does not have an "applicability" role in the TOP restoration plan or its implementation. Beginning with the system collapse, the TOP restores the Transmission System, restores Interconnections, and supplies off-site power to nuclear generating stations. This is accomplished on a command and control basis by the Transmission Operator in conjunction with the GOP. Once Interconnections have been reestablished and the Transmission System restored, the restoration of firm Load can begin. The TOP is restoring the System through command and control until a sufficient System has been built where frequency is under control.			
Southern Company Generation		X	No effective date has been projected. Ample time between approval and implementation should be included to allow TOP's and GOP's to implement or modify existing practices and procedures to comply with these modified requirements.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
SPP ORWG		X	The proposed Plan is very confusing with the multiple dates associated with different requirements in EOP-005-2. The sequencing of the implementation doesn't appear to be logical. For example, the TOP is required to implement a plan within 6 months of approval, but R1, which requires the plan, isn't effective for 21 months after approval. Also, there is inconsistency between implementation of EOP-005-2 and EOP-006-2. General Comments: Did the SDT consider combining EOP-005 and EOP-006? They are so similar and closely related, it appears there may be some advantages to combining the two. Would the SDT please provide clarification on R.14 of EOP-005-2? If the Transmission Operator entity and the Generator Operator entity are the

#5 – Commenter	Yes	No	Comment
			same entity, is an agreement necessary? Would the inclusion of that particular generation in the TOP's plan be sufficient for the agreement? There is duplication between R.2 and R.3 in EOP-005-2 regarding the submittal of the plan to the RC. To eliminate the duplication, delete the phrase '…, and to it's Reliability Coordinator' in R.2. In EOP-006-2, R6, the Reliability Coordinator is required to have a copy of the latest approved restoration plans of each Transmission Operator within each control center and available to its control room personnel. Shouldn't this same requirement be applied to the Reliability Coordinator's restoration plan? There is a typo in R2 of EOP-005-2. Replace "it's" with "its".
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. The SDT considered combining all the standards, but believes it is useful to separate the "Operations" from the "Coordination." EOP-005-2, R14: If the TOP and GOP are the same entity, you could still have an Agreement or Service Level Agreement that would cover this requirement. EOP-005-2, R2: The SDT agrees that this appears redundant at first glance but the 2 requirements are somewhat different – one is for submittal to gain approval of the RC and the other is distribution of that approved plan. EOP-006-2, R6: The language has been changed to include the RC plan. EOP-005-2, R2: The revised standard does not use this word.			
WECC RCCWG		X	The Implementation Plan lists times up to 21 months after applicable reglatory approvals for R1 in EOP-005-d2. All requirements for the Reliability Coordinator are listed as effective 18 months after applicable regulatory approvals. With the requirement that the Transmission Operator restoration plan is coordinated with the Reliability Coordinator plan, the WECC RCCWG believes that the effective date fore EOP-006 should be changed to 27 months (6 months following the effective date of EOP-005 R1) to give the Reliability Coordinator time to initially assess the plans, and make or coordinate any necessary revisions. The WECC RCCWG has further comments to submit on the draft standards. As there is no suitable space on this comment form, the following comments are submitted outside of the specific questions asked:

#5 – Commenter	Yes	No	Comment
			EOP-005-d2 R2 and EOP-006 R2 state "in order to ensure the reliability of the Interconnection". This wording is philosophical and does not belong in a requirement. The concept is already properly placed in the purpose of the standard. Please remove the wording from the requirements. The wording of EOP-005-d2 R8 seems awkward. The Transmission Operators will be resynchronizing energized islanded area(s), not resynchronizing "shut down area(s). EOP-006-d2 R1.2 and 1.3 refer to "descriptions of the elements of coordination". It is not clear what this actually means. What are elements of coordination? EOP-006-d2 R6 requires the Reliability Coordinator have a copy of the latest approved restoration plans. Is a hard copy be specified or will an electronic copy suffice? If a hard copy is required, that requirement needs to be clearly stated. EOP-006-d2 R11.1 states that "Each Reliability Coordinator shall request each Transmission Operator and Generator Operator identified in its restoration plan to participate in a drill, exercise, or simulation at least every two calendar years." The WECC RCCWG agrees that the Reliability Coordinator can, and should, invite; but cannot enforce that employees outside of the Reliability Coordinator organization attend this training. The WECC RCCWG is confused why EOP-006-d2 M11 states "Each Reliability Coordinator shall have evidence such as training records that its conducted two System restoration drills, exercises, or simulations per year THAT INCLUDED (emphasis added) Transmission Operators and Generator Operators with Blackstart Resources in accordance with Requirement R11." The WECC RCCWG suggests that evidence should be required that the Reliability Coordinator conducted two System restoration drills, exercises, or simulations per year; and that further evidence that Transmission Operators and Generator Operators with Black Start Resources were INVITED TO ATTEND/PARTICIPATE (emphasis added) in accordance with Requirement R11.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. EOP-005-2, R2: Language has been deleted as proposed. EOP-005-2, R8: Language has been changed to omit the phrase, “shut down.”			

#5 – Commenter	Yes	No	Comment
EOP-006-2, R6: The type of copy required has been left to the discretion of the RC. EOP-006-2, R11.1: M11 has been changed to address both elements of the requirement			
Western Area Power Administration		X	EOP-005-2, R8 The last part of the requirement states "or in accordance with the established procedures of the RC" Would it be better to say "or in accordance with the pre-approved restoration plan".
Response: The SDT believes the language describes what is required. A plan may not have the capability to describe the exact resynchronization sequence.			
Xcel Energy		X	The relationships and timing between elements of the standards need to be reexamined. For example, does it make sense to have EOP-005 R2 (relating to distribution of restoration plans) take effect before R1 (relating to development of the restoration plan)?
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
Bonneville Power Administration	X	X	There are a lot of requirements and measures. Allow time to get agreements in places. a. Remove R1.1 is needed, covered by R7.2. **Response:** EOP-005-2, R1.1: Language has been changed. R1.1 was modified and R7.2 was deleted to eliminate the duplication. b. Concerned about R2 and the impacts to Critical Infrastructure Security, with the WHOLE restoration plan being sent to Entities participating in the Restoration Plan. **Response:** EOP-005-2, R2: Language has been changed and specifies that the plan needs to be distributed to NERC Functional entities. c. R9.1 Change to every five years (due to multiple resource timing coordination) **Response:** EOP-005-2, R9.1: The SDT determined that most existing RRO BCPs require testing at least on a three year basis. Therefore, this is not a 'new' requirement and shouldn't be unduly burdensome. d. EOP005 R11: Who is included under "control room personnel" is unclear. If the intention is to provide training to certified System Operators, the requirement should identify them in a manner similar to that used in PER002 R4 (identifying the applicability of the 32 hour emergency operations training requirement). If the intention is broader than System Operators, use the same language

#5 – Commenter	Yes	No	Comment
			used by the SDT in EOP006 R10 "identified in its restoration plan". BPA suggests R11 be changed to: "… annual System restoration training for the control room personnel identified in its restoration plan to ensure proper execution of its restoration plan." **Response:** EOP-005-2, R11; Language has been changed from "control room personel" to "System Operators." e. EOP005 R13: Saying that the TO must participate in RC drills "as requested" does not leave much flexibility in the TO training program and could be unduely burdensome to TOs that cover a wide geographic area and therefore may receive 'requests' to participate in more than one every two calendar years (see EOP006 R11.1). - The requirement should be re-worded in a manner similar to that used by the SDT in EOP006 R11.1 (e.g. require participation in a RC drill at least once every two years). BPA suggests R13 be changed to "Each Transmission Operator shall participate in its Reliability Coordinator's restoration drills, exercises, or simulations at least once every two calendar years." -M12 would be changed appropriately. **Response:** EOP-005-2, R13: A TOP that operaties in multiple RC areas should reasonably be expected to participate in all its RC drills. It would be expected that different personnel would be involved. Note that TOP is a Registered Entity, not an employee. f. EOP006 R11.1: Says that the RC will conduct drills that includes every TO and GO within their jurisdiction during a two year rotation. Suggest that a longer rotation (3 years) would be sufficient to meet the intent of the requirement. **Response**: EOP-006-2, R11.1: In FERC Order 693, the ERO is directed to identify time frames for training and review of restoration plan requirements. Most industry comments agree with every two years.
Response: See in-line responses.			
IESO	X	X	(A) We generally agree with the Implementation Plan. However, there are no specific dates proposed in the plan and hence we are unable to fully assess the implementation timeline. Also, the compliance elements have not been developed; this may take some time. Further, implementation dates should not be tied to regulatory approval but rather specific dates defined that will ensure the same implementation dates north –American wide. This is particularly important for jurisdictions that implement standards without regulatory approval being necessary.

#5 – Commenter	Yes	No	Comment
			(B) Since this form does not provide a question or area for comments on the requirements, we would provide our comments on individual requirements below: EOP-005 R2: The phrase "in order to ensure the reliability of the Interconnection" is not needed since this is covered by the purpose. R9.2.2 "Dead" bus is not defined and may be subject to different interpretations. "De-energized', on the other hand, may be interpreted as a grounded bus. We'd therefore suggest replacing the term "dead (de-energized)" to "off-potential". R12: This requirement holds the TOP responsible for providing 2 hours training annually to field switching personnel identified as performing unique tasks associated with the restoration plan that are not normally required. Under certain situations (not planned), personnel other than those having received training may need to be called upon to perform switching to restore the system. Would R12 preclude these personnel from being allowed to perform the needed switching? If, under pressing situations, these personnel were indeed called upon to perform switching, would the TOP be deemed violating this standard? If R12 remains as is, the standard needs to be clear on the requirement on who can and cannot perform these switching tasks, and the consequence for the TOP for deploying non-trained personnel to perform switching during restoration. R16: It is the IESO's view that 90 days is far too long before notifying the TOP of known changes to the capability of a Blackstart Resource. We believe that notifications should be made promptly with a detailed follow-up within 30 calendar days by the GOP. We suggest that the requirement be rewritten as "Each Generator Operator of a Blackstart Resource shall promptly, for all events within five minutes, subject only to delay necessitated by concerns for the safety of equipment, employees, the public or the environment, notify its Transmission Operator of any known changes to the capabilities of that Blackstart Resource. The Generator Operator should provide a detailed report on the change or limitation and a

#5 – Commenter	Yes	No	Comment
			mitigation plan, if one is required, to the Transmission Operator, as soon as possible but not exceeding 30 calendar days from the initial notification. [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]" R18: Does the time spent performing a black start test, or for that mater a real time event count towards the 2 hour training requirement for generator black start operators? If so, please clarify it in the standard. EOP-006 R2: The phrase "to ensure the reliability of the Interconnection" is not needed since this is covered by the purpose.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. EOP-005-2, R2: Language has been deleted as proposed EOP-005-2, R9.2.2: language has been changed and now says, "to energize a bus." EOP-005-2, R12: This requirement only covers training and violations will be incurred only if the required training is not supplied. EOP-005-2, R16: The SDT agrees that 90 days is excessive but 5 minutes is unreasonable. Language has been changed to 24 hours. EOP-005-2, R18: The SDT does not believe any change to wording is required. The training plan of the GOP can address whether a blackstart test is part of the training. The training must address both subrequirements. EOP-006 R2: The SDT has revised the standard to omit the suggested language.			
ISO New England ISO/RTO Council NPCC RSC	X	X	(A) We generally agree with the Implementation Plan. However, there are no specific dates proposed in the plan and hence we are unable to fully assess the implementation timeline. Also, the compliance elements have not been developed; this may take some time. Further, implementation dates should not be tied to regulatory approval but rather specific dates defined that will ensure the same implementation dates North American-wide. This is particularly important for jurisdictions that implement standards without requiring regulatory approval. (B) Since this form does not provide a question or area for comments on speficic details in the Standards: ISO New England believes the BAs needs to be identified in the Applicability of these Standards. The Functional Model identifies the BA

#5 – Commenter	Yes	No	Comment
			tasks as "Must have control of any of the following combinations within a Balancing Authority Area: Load and generation (an isolated system)"…"Operate its Balancing Authority Area to maintain load-interchange-generation balance."…and..."Implement emergency procedures." EOP-005 R2: The phrase "in order to ensure the reliability of the Interconnection" is not needed since this is already covered by the Purpose. R6.2: This requirement needs to be revised to reflect the proposed revised description in R1 (see our comments under Q2, above) pertaining to to the end state of blackstart. We suggest R6.2 to be revised to: "The Loads required to stabilize the system or a part of the system until it achieves a sustainable operating state that exhibits stable frequency and acceptable voltages." R12: This requirement holds the TOP responsible for providing 2 hours training to field switching personnel identified as performing unique tasks associated with the restoration plan that are not normally required. Under certain situations (not planned), personnel other than those trained may need to be called upon to perform switching to restore the system. Would this training requirement preclude these personnel from being allowed to perform the needed switching? If, under pressing situations, these personnel are called upon to perform switching, would the TOP be deemed violating this standard? The standard needs to be clear on the requirement on who can and cannot perform these switching tasks, and the consequence of the TOP asking non-trained personnel to perform switching during restoration. R16: It is ISO New England's belief that 90 days is far too long before notifying the TOP of known changes to the capability of a Blackstart Resource. We believe that notifications ASAP and within 30 days of the GOP becoming aware of the capability changes is more appropriate. EOP-006 R11: States "Each Reliability Coordinator shall conduct two System restoration drills, exercises, or simulations per calendar year, which shall include the Transmission Operators and Generator Operators with Blackstart Resources in their area of responsibility as dictated by the

#5 – Commenter	Yes	No	Comment
			particular scope of the drill, exercise, or simulation that is being conducted." Most RCs conduct one very comprehensive restoration exercise every year. It usually takes 3-4 months, if not longer, to prepare for it. We believe that quality should rule over quantity and would like to see this changed to a minimum of once a year. As such, we propose this requirement be revised to: "…Reliability Coordinator shall conduct at least one restoration drill, exercise, or simulation per calendar year…"
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. The SDT believes that the BA does not have an "applicability" role in the TOP restoration plan or its implementation. Beginning with the system collapse, the TOP restores the Transmission System, restores Interconnections, and supplies off-site power to nuclear generating stations. This is accomplished on a command and control basis by the Transmission Operator in conjunction with the GOP. Once Interconnections have been reestablished and the Transmission System restored, the restoration of firm Load can begin. The TOP is restoring the System through command and control until a sufficient System has been built where frequency is under control. EOP-005-2, R2: The SDT has revised the standard to delete the phrase, "in order to ensure the reliability of the Interconnection" as proposed. EOP-005, R6.2**:** The SDT has revised the subrequirement so that it simply states, "The location and magnitude of Loads required to control voltages and frequency within acceptable limits". EOP-005-2, R12: This requirement only covers training and violations will be incurred only if the required training is not supplied. EOP-005-2, R16 – The SDT agrees that 90 days is excessive. There were different stakeholder suggestions on a more appropriate time frame, and the SDT is proposing 24 hours in the revised standard. EOP-006 R11 - Other RCs have not voiced this concern. The SDT therefore believes that the RC can control the scope of restoration drills to meet its needs and that 2 drills per year is the correct number.			
MHEB	X	X	For the Transmission Operators: It seems odd that the requirement to have a restoration plan would be after the requirement that requires implementation of its restoration plan. Same with the Generator Operators are required to test their blackstart resources before the requirement to have a documented procedure.
Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft.			
O	X	X	R14: This section requires that "Each Transmission Operator and Generator Operator with a Blackstart Resource shall have a written Blackstart Resource agreement document specifying the terms and conditions of their arrangement." Although in many cases TOPs will have such "documents"

#5 – Commenter	Yes	No	Comment
			with GOPs, a vertically integrated TOP would not necessarily have a specific "document" for Blackstart Resources that it operates and owns. In addition, if a Reliability Coordinator develops a Blackstart Tariff schedule that specifies the terms and conditions under which testing and compensation for Blackstart services will occur, a TOP might also not have such an agreement with the GOP because the Reliability Coordinator's Tariff might be superceding. I suggest that the language in R14 be broadened to permit "or appropriate provisions in a Reliability Coordinator Tariff or in another third party agreement", rather than mandating that each TOP have such an agreement with GOPs. We still have a concernt that the drafting team is discounting the role of the Balancing Authority during restoration. During the initial stages of restoration, not only does frequency have to be controlled, but reserves must be distributed, specific generators need to be given frequency following instructions, while others are given load-carrying targets. Once islands are interconnected, one island manages frequency and the other manages flow on the interface. Are we sure that TOPs have the tools to do this?
Response: EOP-005-2, R14: The SDT has changed the wording to 'Agreement' that is a defined term and addresses this issue. The SDT believes that the BA does not have an "applicability" role in the TOP restoration plan or its implementation. Beginning with the system collapse, the TOP restores the Transmission System, restores Interconnections, and supplies off-site power to nuclear generating stations. This is accomplished on a command and control basis by the Transmission Operator in conjunction with the GOP. Once Interconnections have been reestablished and the Transmission System restored, the restoration of firm Load can begin. The TOP is restoring the System through command and control until a sufficient System has been built where frequency is under control. No TOP has expressed this concern.			
Pacific Gas and Electric	X	X	EOP-005-2 R12 for the TO should be changed to align with the RC and GO – 18 months.
Response: TOP and RC already have annual training requirements and these standards do not change those requirements. GOP training has been set to every 2 years (EOP-005-2, R18).			
San Diego Gas and Electric			Additional comments on EOP-005-2 Blackstart Resource: There are generators that are not blackstart, but play an integral part in the restoration plan after being restarted by a smaller blackstart unit. This should be modified to include generators that are not necessarily a blackstart resource, but play an integral part in the restoration plan.

#5 – Commenter	Yes	No	Comment
			Requirement 2 seems redundant to requirement 10. . There should also be a requirement that those entities that receive the plan treat it as confidential information and protect it against further distribution. Requirement 3: For simplicity, do not say use rolling 365 days. Simply say at least every 12 months. Requirement 4: Change to ". . . after identifying that a permanent System modifications has changed the implementation . . ." Requirement 11: It would seem that we should use a consistant term "operating personnel" as is used in the PER standards rather than introduce a new term "control room personnel".
Response: While the TOP's plan must include cranking paths to "next units," the plan (with verification) may include more detail. The scope of the standards does not address next units to be started. EOP-005-2, R2: R2 refers to the restoration plan; R10 refers to the Blackstart Resource testing requirements, therefore there is no redundancy. EOP-005-2, R3: Language has been changed and the phrase, "rolling 365 days" is no longer used. EOP-005-2, R4: The SDT believes that the wording is equivalent. EOP-005-2, R11: Language has been changed – the defined word, "System Operator" is used in the revised standard			
ATC LLC	X		Other comment personnel training requirements should be pulled out of the proposed standards and placed into a new PER standard.
Response: The SDT supports FERC's recommendation that inclusion of periodic system restoration drills and training requirements in the EOP standards as the most effective way of achieving the desired level of system restoration training.			
FirstEnergy	X		At first glance the implementation plan does not seem to flow correctly from a timeline perspective; for example, in EOP-005 it seemed as though implementing a restoration plan after a system disturbance (R7) cannot be accomplished without an approved restoration plan (R1). But after further deliberation, we believe the SDT was merely trying to assure that, per R7, "a" plan is available and in place while the final, fine-tuned, and RC approved plan is still being completed per R1. Response: Due to industry comments, the SDT has revised the Implementation Plan that goes into greater detail and includes a phased-in transition after regulatory approval. A new question on the detailed Implementation Plan has been posted with the third draft. 6. {WE HAVE ADDED A QUESTION 6 TO CAPTURE OUR ADDITIONAL

#5 – Commenter	Yes	No	Comment
			COMMENTS AND CONCERNS} EOP-005-2: Blackstart Resource Definition - Comment: We believe the definition can be more simplistic and still cover the meaning of this term. The present definition is unnecessarily wordy and prescriptive. We suggest the following Definition: "A generation Facility under the control of the Generator Operator with the ability to start itself without support from the System and that meets the obligations of the restoration plan of the Transmission Operator." EOP-005-2, Definition: The SDT believes that the current definition correctly states the intent of the SDT and has not changed the wording. R1.1 appears to be a duplication of NPIR information required in NUC-001. Consequently, R1.1. should be revised to state, "A reference to the documents and procedures containing the NPIR information for each Nuclear Plant in the Transmission Operator area of responsibility developed under NUC-001." There should not be any need to duplicate this information in total in the restoration plan under this standard. Response: EOP-005-2, R1.1: Language has been changed and R7.2 has been deleted to eliminate the duplication with NUC-001 R1.3. Comment: Use of the term characteristics is ambiguous and may leave room for interpretation. We suggest removing this term and rewording R1.3 as follows: "Identification of each Blackstart Resource, the name of the Blackstart Resource, location, megawatt and megavar capacity, and type of unit." Response: EOP-005-2, R1.3: The SDT believes the current wording is equivalent. R1.6: Should be revised to say, "A statement that the System Operator shall use professional judgment to deviate from the System restoration plan in situations where the actual conditions do not match the studied conditions contained in the restoration plan. Comment: Revised to improve clarity. Response: EOP-005-2, R1.6 – This requirement was deleted. R2.0: Comment: This requirement may be problematic in that the restoration plan will contain detailed transmission information and this

#5 – Commenter	Yes	No	Comment
			requirement means that the Transmission Operator must distribute this plan to "entities identified in its restoration plan." These entities may include affiliated merchant function groups. We are concerned that this requirement may violate FERC Code of Conduct rules. Response: EOP-005-2, R2: Language has been changed and only requires distribution to NERC Functional entities identified in the plan. R3.1: Comment: The phrase, "in writing" should be inserted after "confirm annually" to establish and ensure an audit trail for this requirement. Response: EOP-005-2, R3.1: The Measure for R3 provides for the documentation. R6.1: Should be revised to say, "The ability of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and to supply initial Loads." Comment: Real power requirements in a blackstart situation are every bit as critical as reactive requirements. Response: EOP-005-2, R6.1: The SDT has revised the sub-requirement in support of your suggestion. R7.1: Should be revised to say, "Each affected Transmission Operator shall reach agreement with its Reliability Coordinator on the extent and condition of the isolated area(s)." Comment: Requirements should have a specific desired outcome identified. Working "in conjunction" with a Reliability Coordinator does not specify the desired outcome. Response: EOP-005-2, R7.1: The SDT believes that the wording is equivalent. R7.2 should be revised to say, "Each affected Transmission Operator shall restore off-site power to nuclear power plants in agreement with reliability standard NUC-001 and in accordance with its restoration plan or as directed by the Reliability Coordinator when conditions are not a describe in the restoration plan." Comment: The restoration plans include meeting offsite power requirements of nuclear power plants in accordance with the NPIR from NUC-001. We should use those plans first and then rely on Reliability Coordinator directives when conditions are not as planned. Also, the phrase, "high priority" has been dropped from the proposed revision to R7.2 because it is ambiguous and lacks clarity of meaning. We feel that the only appropriate place for this phrase is in the purpose of the standard as a whole which is "... to ensure ... that priority is placed on restoring the

#5 – Commenter	Yes	No	Comment
			interconnection." Response: The SDT has revised its method of addressing nuclear plants in R1.1. R8: Should be revised to say, "Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, each affected Transmission Operator shall resynchronize shut down area(s) with neighboring Transmission Operator area(s) only with the authorization of the Reliability Coordinator and the affected neighboring Transmission Operator(s) or in accordance with the established procedures of the Reliability Coordinator." Comment: We should not assume that the Reliability Coordinator has sufficiently communicated with neighboring control areas at a time when the system is weakened and vulnerable. Consequently, a communication with the neighboring control area during synchronization should be required. Response: EOP-005-2, R8: The SDT believes that the RC is in command at this point in time and will coordinate with other RC's if boundaries are crossed as pointed out in EOP-006. R9.2.2.: The phrase "frequency monitors disconnected" should be changed to "frequency monitor controls disconnected" Comment: The controls inhibit energizing actions, not a monitoring system. In fact there may be an advantage to having the voltage monitoring system turned on for use in verifying the bus has indeed been energized. Response: EOP-005-2, R9.2.2: The SDT has used the suggested wording. R19. Should be revised to say, "Each Generator Operator shall participate in the Reliability Coordinator's restoration drills, exercises, or simulations as requested by the Reliability Coordinator or Transmission Operator." Comment: Considering the size of Reliability Coordinator Areas and the number of Generator Operator entities they may contain, it is advantageous to allow the Transmission Operator to extend the invitation to the drill on behalf of the Reliability Coordinator. Also, the Transmission Operator may wish to include an entity in the drill that the Reliability Coordinator had not considered. Response: EOP-005-2, R19: The RC is free to use its TOPs (and other Entities) to determine who should be invited to its drills.

#5 – Commenter	Yes	No	Comment
			EOP-006-2: R1.6: Should be revised to say, "A statement that the System Operator shall use professional judgment to deviate from the System restoration plan in situations where the actual conditions do not match the studied conditions contained in the restoration plan." Comment: Revised to improve clarity. Response: EOP-006-2, R1.6 – Language was deleted. Note that a new sub-requirement was added to support the intent that in real-time, if conditions don't match the plan, the TOP must follow the the concepts in its restoration philosophy in restoring the system. R5.3: Should be revised to, "The Reliability Coordinator shall provide written notification to the Transmission Operator of its decision under R5.2 and provide reasons if disapproving a Transmission Operator's restoration plan." Comment: Revised to improve clarity. Response: EOP-006-2, R5.3: It is not clear what is being requested. R5.3 already requires written notification of reasons for disapproval. R7. Should be revised to, " Following a Disturbance in which one or more areas of the BES shuts down and the use of Blackstart Resources is required to restore the shut down area to service, each Reliability Coordinator shall reach agreement(s) with affected Balancing Authorities, Generator Operators, and Transmission Operators as well as neighboring Reliability Coordinators on the actions to be taken to monitor restoration progress, coordinate restoration activities, and to restore the BES frequency within acceptable operating limits. Such actions may include, but are not limited to, directing the adjustment of generation, the placing of additional generators on line, or the shedding of Load." Comment: Revised to improve clarity and more accurately reflect the actions of the Reliability Coordinator. Furthermore, requirements should have a specific desired outcome identified. Working "in conjunction" with a Reliability Coordinator does not specify the desired outcome. Response: EOP-006-2, R7: The SDT has changed the wording of this requirement to clarify the position. See the summary of changes for this question. R10: Add requirement R10.3. Review of the restoration plan. Comment: The Reliability Coordinator develops a restoration plan from the plans

#5 – Commenter	Yes	No	Comment
			provided by the Transmission Operators. They should be required to provide training on their plans. Response: EOP-006-2, R10.3: The SDT believes inclusion of system restoration philosophy covers this concern.
Response: See in-line responses.			
Hydro One Networks	X		Requirement comments: 1- EOP-005-2 R1.6 uses the term "System Operator" which is not an entity in the NERC Reliability Functional Model. Suggest changing it to "Transmission Operator" or else clarify the intent of the requirement. 2- EOP-005-2 R11.1 suggest adding "System restoration philosophy including coordination with the Reliability Coordinator and Generator Operators included in the restoration plan. 3- EOP-006-2 R1.6 uses the term "System Operator". Since this is not an entity in the NERC Reliability Functional Model there is a potential for confusion as to who will make the judgment e.g. Transmission Operator or Reliability Coordinator? 4 - We do not agree with the term 'professional judgement' and its implied context (ref. EOP-005-2 R1.6 and EOP-006-2 R1.6). We suggest using the phrase "good utility practise". We also do not agree with the idea that the restoration plan must match studies conditions - this is not the case. What would be more prudent is to identify that the restoration plan is studied to assure viability. 5 - EOP-005-2 M7 and M8 and EOP-006-2 M7, M8, M9 - We do not produce copies of voice recordings due to privacy. We do provide transcripts of the recordings as they pertain to the event, but no actual recordings. Perhaps this should be re-worded in case others have the same philosophy. 6 - EOP-005-2 R6.2: Revise to "The Loads required to stabilize the system or a part of the system to a sustainable operating state where the system exhibits stable frequency within acceptable votlage limits." 7 - EOP-005-2 R16: Reduce the number of days in which a GOP must notify the TOP of known changes to Blackstart Resources. Suggest wording such as "... no more than 24 hours of the Generator Operator becoming

#5 – Commenter	Yes	No	Comment
			aware of the capability change …"
Response: EOP-005-2, R1.6: This subrequirement was deleted. EOP-005-2, R11.1: The suggested change was made to R11.1. EOP-006, R1.6: This subrequirement was deleted. EOP-005-2, R1.6 & EOP-006-2, R1.6: The subrequirement was deletedf rom both standards. EOP-005-2, M7 & EOP-006-2, M7, 8, and 9: The measure describes types of evidence and is not a complete list. No changes are necessary. EOP-005-2 R6.2: Changes have been made to the sub-requirements of R6 to provide clarity. EOP-005-2 R16: Language has been changed to 24 hours in support of your suggestion			
Madison Gas and Electric	X		Other comments: 1. R15 states "Each Generator Operator with a Blackstart Resource shall have documented procedures for starting the Blackstart Resource and energizing a dead (de-energized) bus." A possible rewrite could be: (cap letter used to help the SDT) "Each Generator Operator with a Blackstart Resource shall have documented procedures for ITS OPERATING PERSONNEL RESPONSIBLE FOR starting the Blackstart Resource and energizing a dead (de-energized) bus." This would then be complimented by: R18 states "Each Generator Operator of a Blackstart Resource shall provide a minimum of two hours of training per year to each of its operating personnel responsible for the startup and synchronization of its Blackstart Resource generation units. The training program shall include the following…". The first requirement sets the procedure then the second requirement sets that you need to train on it. 2. In R15 is the registered entity "Generator Operator" the same or different from R18 the "Generator Operator with operating personnel responsible for start up and synchronization"? R15 implies that the Generator Operator is the registered entity. R18 implies that the Generator Operator is the registered entity that has operating personnel. Clarification is requested. 3. R18.1 should be rewritten to "System restoration philosophy". The

#5 – Commenter	Yes	No	Comment
			operating personnel responsible for the actual strat up of the blackstart unit will take their orders from control center personnel. If a company wants to go into transmission operator coordination then they can.
Response: The SDT has specifically limited the applicability to GOPs with Blackstart Resources. Generator Operator refers to the Functional Model entity.			
We Energies	X		Since no specific area is provided for additional comments, they are placed here: The standards appear to be drafted from the perspective of a vertically integrated utility, not in terms of the NERC functional model entities. The conspicuous absence of the NERC functional entity "Balancing Authority" in both EOP-005-2 and EOP-006-2 produces doubt as to the value of the standards. The BA should be intimately involved in all aspects of the system restoration plan and the execution thereof. The argument that the BA role is prescribed for all operating conditions in the Balancing Authority standards is fallacious. Below are extracts from BAL–001 thorough BAL–006 with comments regarding the applicability during the restoration process. A. Introduction 1. Title: Real Power Balancing Control Performance 2. Number: BAL-001-0 3. Purpose: To maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time. 4. Applicability: 4.1. Balancing Authorities 5. Effective Date: April 1, 2005 The purview of BAL-001 is limited to interconnection steady state frequency, and does not pertain to island frequency during system restoration efforts. During island scenarios ACE is irrelevant as are the control performance criteria – the frequencies of the various islands will not be equal and there will be no scheduled interchange. EOP-005 R1.5 requires identification of acceptable operating frequency limits during restoration efforts. Since BAL-001 does not apply to restoration scenarios, and the Balancing Authority is responsible for maintaining frequency, the NERC functional entity "Balancing Authority" should be included in the EOP-005-2 standard.

#5 – Commenter	Yes	No	Comment
			A. Introduction 1. Title: Disturbance Control Performance 2. Number: BAL-002-0 3. Purpose: The purpose of the Disturbance Control Standard (DCS) is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable Disturbance. Because generator failures are far more common than significant losses of load and because Contingency Reserve activation does not typically apply to the loss of load, the application of DCS is limited to the loss of supply and does not apply to the loss of load. 4. Applicability: 4.1. Balancing Authorities 4.2. Reserve Sharing Groups (Balancing Authorities may meet the requirements of Standard 002 through participation in a Reserve Sharing Group.) 4.3. Regional Reliability Organizations 5. Effective Date: April 1, 2005 Again, interconnection frequency has no meaning in an island scenario. A. Introduction 1. Title: Frequency Response and Bias 2. Number: BAL-003-0 3. Purpose: This standard provides a consistent method for calculating the Frequency Bias component of ACE. 4. Applicability: 4.1. Balancing Authorities 5. Effective Date: April 1, 2005 During island scenarios, ACE is irrelevant.

#5 – Commenter	Yes	No	Comment
			A. Introduction 1. Title: Time Error Correction 2. Number: BAL-004-0 3. Purpose: The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection. 4. Applicability: 4.1. Reliability Coordinators 4.2. Balancing Authorities 5. Effective Date: April 1, 2005 No RC will initiate a Time Error Correction during island scenarios. A. Introduction 1. Title: Automatic Generation Control 2. Number: BAL-005-0 3. Purpose: This standard establishes requirements for Balancing Authority Automatic Generation Control (AGC) necessary to calculate Area Control Error (ACE) and to routinely deploy the Regulating Reserve. The standard also ensures that all facilities and load electrically synchronized to the Interconnection are included within the metered boundary of a Balancing Area so that balancing of resources and demand can be achieved. 4. Applicability: 4.1. Balancing Authorities 4.2. Generator Operators 4.3. Transmission Operators 4.4. Load Serving Entities 5. Effective Date: April 1, 2005 AGC will be useless until system conditions are near to normal interconnection status. A. Introduction 1. Title: Inadvertent Interchange

#5 – Commenter	Yes	No	Comment
			2. Number: BAL-006-1 3. Purpose: This standard defines a process for monitoring Balancing Authorities to ensure that, over the long term, Balancing Authority Areas do not excessively depend on other Balancing Authority Areas in the Interconnection for meeting their demand or Interchange obligations. 4. Applicability: 4.1. Balancing Authorities. 5. Effective Date: May 1, 2006 There will be no inadvertent flows out from or into an island. In summary, the existing NERC Balancing Authority Standards BAL–001 through BAL–006 do not apply during system restoration efforts. Further, the proposed standards EOP–005–2 and EOP–006–2 do not address the operations of the Balancing Authority during system restoration events. Comments specific to EOP-005 No training is specified for the BA system operators. The system restoration scenario is very unique and challenging in terms of balancing resources to load. Load behavior will be very dynamic – cold load pick up and loss of diversity will be significant factors during the restoration process. Since the BA is ultimately responsible for balancing under all conditions, it is imperative for the BA to be involved in the training for restoration and the implementation during an event. The LSE has no requirements in this standard. Is there value including the LSE in terms of load used as a tool? What load profiles are expected? What impact does that have on the generator stability, system voltages and island frequency? R1.5 – Specifies voltage and frequency limits. Without the BA involvement, how do you control frequency? Who determines the frequency limits? The BAL Standards apply for normal operations with bias control, but system restoration scenarios are totally different.
Response:			

#5 – Commenter	Yes	No	Comment
The SDT continues to believe that the BA does not have an "applicability" role in the TOP restoration plan or its implementation. Beginning with the system collapse, the TOP restores the Transmission System, restores Interconnections, and supplies off-site power to nuclear generating stations. This is accomplished on a command and control basis by the Transmission Operator in conjunction with the GOP. Once Interconnections have been reestablished and the Transmission System restored, the restoration of firm Load can begin. The TOP is restoring the System through command and control until a sufficient System has been built where frequency is under control. The standard requires the TOP to have agreements with GOPs (with Blackstart Resources) The SDT believes that existing agreements/arrangements between TOP and GOP cover the indicated concerns. The TOP needs to coordinate with LSEs for load needed during restoration. R2 provides for the distribution of the TOP's restoration plan to entities identified in its restoration plan. Language changes have been made to EOP-005-2, R2 to address the security issues.			
Ameren			No comment.
CenterPoint Energy			No comment.
Con Edison			No comment.
Entergy Services (1)	X		
Exelon Corp.			No comment.
Northeast Utilities			No comment.
OVEC			No comment.
Oncor	X		
Potomac Electric Power Company	X		
Reliant Energy	X		
Santee Cooper	X		
Tampa Electric Company	X		
Response: Thank you for your comment.			