

Consideration of Comments on the 4th Draft of Standards for Back-up Facilities (Project 2006-04)

The Back-up Facilities Standard Drafting Team thanks all commenters who submitted comments on the 4th draft of EOP-008-1 — Loss of Control Center Functionality. The standard was posted for a 30-day public comment period from February 4-March 8, 2010. Stakeholders were asked to provide feedback through a special electronic comment form. The drafting team received 34 sets of comments, including comments from more than 90 different people from over 60 companies representing 8 of the 10 Industry Segments in the Registered Ballot Body as shown in the table on the following pages.

All comments have been posted in their original format at the following site:

http://www.nerc.com/filez/standards/Backup_Facilities.html

In this report the comments have been sorted so it is easier to see where there is consensus.

The SDT made only minor semantic changes based on this round of industry comments as summarized below and as a result is recommending that the Standards Committee advance this project back to the balloting stage.

The vast majority of comments received supported the changes made by the SDT and there are no significant minority points of view to report.

Requirements changed: R1, R1 — part 1.2: bullet #1, R5 — part 5.1, R6, and R8.

R1. — Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it [continues to meet its functional obligations with regard to the](#) reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:

R1, part 1.2 — Tools and applications to ensure that System Operators have situational awareness of the BES.

R5, part 5.1 — An update and approval of the Operating Plan for backup functionality shall take place within sixty calendar days of any changes to any part of the Operating Plan described in Requirement R1.

R6 — Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.

R8. — Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.

Data retention changes: bullets 1 & 5.

1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall retain their dated, current, in force Operating Plan for backup functionality for the time period since its last compliance audit in accordance with Measurement M1.

5. Each Reliability Coordinator, Balancing Authority, and Transmission Operator, shall retain evidence for the time period since its last compliance audit, that its dated, current, in force Operating Plan for backup functionality, has been reviewed and approved annually and that it has been updated within sixty calendar days of any changes to any part of the Operating Plan described in Requirement R1 in accordance with Measurement M5.

VSLs changed: R5, R6, and R7 Severe.

Requirement	Lower	Moderate	High	Severe
R5	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 60 calendar days and less than or equal to 70 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 70 calendar days and less than or equal to 80 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 80 calendar days and less than or equal to 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not have evidence that it's dated, current, in force Operating Plan for backup functionality was annually reviewed and approved. OR, The responsible entity did not update and approve its Operating Plan for backup functionality for more than 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.
R6	N/A	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Lower VRF.	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Medium VRF	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a High VRF.
R7	The responsible entity conducted an annual test of its Operating Plan for backup functionality but it did not document the results. OR, The responsible entity conducted an annual test of its Operating Plan for backup functionality but the test was for less than two continuous hours but more than or equal to 1.5 continuous hours.	The responsible entity conducted an annual test of its Operating Plan for backup functionality but the test was for less than 1.5 continuous hours but more than or equal to 1 continuous hour.	The responsible entity conducted an annual test of its Operating Plan for backup functionality but the test did not assess the transition time between the simulated loss of its primary control center and the time to fully implement the backup functionality OR, The responsible entity conducted an annual test of its Operating Plan for backup functionality but the test was for less than 1 continuous hour but more than or equal to 0.5 continuous hours.	The responsible entity did not conduct an annual test of its Operating Plan for backup functionality. OR, The responsible entity conducted an annual test of its Operating Plan for backup functionality but the test was for less than 0.5 continuous hours.

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

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

Index to Questions, Comments, and Responses

1. Requirement R1, part 1.1: 'prolonged period of time' was replaced with 'the time it takes to restore the primary control center functionality'. Do you agree with this change? Please supply specific reasons for your comments. 10
2. Requirement R1, part 1.2.1: 'allow visualization capabilities' has been deleted thus placing the onus on situational awareness of the BES. Do you agree with this change? Please supply specific reasons for your comments. 14
3. Requirements R3 & R4: 'when control has been transferred to the backup...' was added to emphasize that operators are only required at the backup when it is in service. Do you agree with this change? Please supply specific reasons for your comments. 19
4. Requirement R6: 'can independently maintain' was replaced with 'do not depend on each other...' Do you agree with this change? Please supply specific reasons for your comments. 23
5. The SDT has made changes to the VSLs for this project based on the latest VSL guidelines. Do you agree with these changes? If not, please provide specific reasons for your comment. Do you agree with these changes? Please supply specific reasons for your comments. 28
6. Do the proposed revisions to the standard pose any new issues or questions that haven't been raised and previously addressed? Please provide specific reasons for your comment. 38

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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.	Individual	Tom Webb	Upper Peninsula Power Company and Wisconsin Public Service Corp			X	X	X						
2.	Group	Ben Li	ISO/RTO Standards Review Committee		X									
Additional Member		Additional Organization		Region				Segment Selection						
1.	Patrick Brown	PJM	RFC					2						
2.	James Castle	NYISO	NPCC					2						
3.	Matt Goldberg	ISONE	NPCC					2						
4.	Steve Myers	ERCOT	ERCOT					2						
5.	Bill Phillips	MISO	RFC					2						
6.	Lourdes Estrada-Salinero	CAISO	WECC					2						
7.	Mark Thompson	AESO	WECC					2						
8.	Charles Yeung	SPP	SPP					2						
3.	Individual	Sandra Shaffer	PacifiCorp	X		X		X	X					
4.	Group	Carol Gerou	MRO's NERC Standards Review Subcommittee											X

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	Commenter	Organization	Industry Segment										
			1	2	3	4	5	6	7	8	9	10	
Additional Member		Additional Organization		Region					Segment Selection				
1.	Chuck Lawrence	American Transmission Company	MRO										1
2.	Tom Webb	Wisconsin Public Service	MRO										3, 4, 5, 6
3.	Terry Bilke	Midwest ISO Inc.	MRO										2
4.	Jodi Jenson	Western Area Power Administration	MRO										1, 6
5.	Ken Goldsmith	Alliant Energy	MRO										4
6.	Dave Rudolph	Basin Electric Power Cooperative	MRO										1, 3, 5, 6
7.	Eric Ruskamp	Lincoln Electric System	MRO										1, 3, 5, 6
8.	Joseph Knight	Great River Energy	MRO										1, 3, 5, 6
9.	Joe DePoorter	Madison Gas & Electric	MRO										3, 4, 5, 6
10.	Scott Nickels	Rochester Public Utilities Address	MRO										4
11.	Terry Harbour	MidAmerican Energy Company	MRO										1, 3, 5, 6
5.	Group	Guy V. Zito	NPCC Regional Standards Committee										X
Additional Member		Additional Organization		Region					Segment Selection				
1.	Kathleen Goodman	ISO New England	NPCC										2
2.	Gregory Campoli	New York ISO	NPCC										2
3.	Michael Lombardi	Northeast Utilities	NPCC										1
4.	Brian Gooder	Ontario Power Generation	ERCOT										5
5.	Donald Nelson	MA Dept. Public Service	NPCC										9
6.	Alan Adamson	New York State Reliability Council	NPCC										10
7.	Ben Eng	New York Power Authority	NPCC										3
8.	Michael Garton	Dominion	NPCC										5
9.	David Kiguel	Hydro One Networks	NPCC										1
10.	Roger Champagne	TransEnergie HQ	NPCC										1
6.	Group	Jalal Babik	Electric Market Policy	X		X		X	X				
Additional Member		Additional Organization		Region					Segment Selection				
1.	Jack Kerr		SERC										1

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	Commenter	Organization	Industry Segment												
			1	2	3	4	5	6	7	8	9	10			
2.	Louis Slade		RFC			5									
3.	Mike Garton		NPCC			6									
7.	Group	Denise Koehn	Bonneville Power Administration			X		X		X	X				
Additional Member		Additional Organization			Region					Segment Selection					
1.	Jim Burns	BPA, Transmission Services, Technical Operations			WECC					1					
8.	Group	Sam Ciccone	FirstEnergy			X		X	X	X	X				
Additional Member		Additional Organization			Region					Segment Selection					
1.	Dave Folk	FE			RFC					1, 3, 4, 5, 6					
2.	Doug Hohlbaugh	FE			RFC					1, 3, 4, 5, 6					
9.	Group	Jason L. Marshall	Midwest ISO Standards Collaborators				X								
Additional Member		Additional Organization			Region					Segment Selection					
1.	Kirit Shah	Ameren			SERC					1					
2.	Joe Knight	Great River Energy			MRO					1, 3, 5, 6					
10.	Group	Jim Case	SERC OC Standards Review Group			X		X							
Additional Member		Additional Organization			Region					Segment Selection					
1.	Gerry Beckerle	Ameren			SERC					1, 3					
2.	Andy Burch	Electric Energy, Inc.			SERC					1, 5					
3.	Tim Hattaway	PowerSouth			SERC					1, 3, 5, 9					
4.	Jack Kerr	Dominion Virginia Power			SERC					1, 3					
5.	Robert Thomasson	Big Rivers Electric Cooperative			SERC					9, 1, 3, 5					
6.	Stephen Mizelle	Southern Co. Transmission			SERC					1, 3, 5					
7.	Alan Jones	Alcoa Power Gen Inc.			SERC					1, 5					
8.	Chad Randall	E.ON.US			SERC					1, 3, 5					
9.	Gloria Miller	E.ON.US			SERC					1, 3, 5					
10.	Steve Fritz	ACES Power Marketing			SERC					6					
11.	Sam Holemen	Duke			SERC					1, 3, 5					

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	Commenter	Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
12.	Gary Hutson	SMEPA	SERC								1, 3, 5			
13.	Dave Pond	TVA	SERC								1, 3, 5, 9			
14.	Larry Akens	TVA	SERC								1, 3, 5, 9			
15.	Gene Delk	SCE&G	SERC								1, 3, 5			
16.	John Rembold	South Illinois Power Cooperative	SERC								1, 3, 5			
17.	Jim Busbin	Southern Co Transmission	SERC								1, 3, 5			
18.	Marc Butts	Southern Co Transmission	SERC								1, 3, 5			
19.	Ron Wyble	City of Columbia, MO - CWLD	SERC								1, 3, 5, 9			
20.	George Carruba	East kentucky Power Cooperative	SERC								1, 3, 5, 9			
21.	Mike Hardy	Southern Co. Transmission	SERC								1, 3, 5			
22.	Edd Forsythe	TVA	SERC								1, 3, 5, 9			
23.	Mike Bryson	PJM	RFC								2			
24.	John Neagle	AECI	SERC								1, 3, 5			
25.	John Johnson	SERC	SERC								10			
11.	Group	JT Wood	Southern Company Transmission	X		X		X	X					
Additional Member		Additional Organization		Region					Segment Selection					
1.	Mark Pratt	Southern Company Generation	SERC								5			
2.	Chris Wilson	Southern Company Transmission	SERC								1			
3.	Mike Sanders	Southern Company Transmission	SERC								1			
4.	Marc Butts	Southern Company Transmission	SERC								1			
5.	Pat Kohler	Southern Company Transmission	SERC								1			
6.	Jim Viikinsalo	Southern Company Transmission	SERC								1			
7.	Stephen Mizelle	Southern Company Transmission	SERC								1			
12.	Group	Michael Gammon	Kansas City Power & Light	X		X		X	X					
Additional Member		Additional Organization		Region					Segment Selection					
1.	Tom Saitta	KCPL	SPP								1, 3, 5, 6			
2.	Jim Useldinger	KCPL	SPP								1, 3, 5, 6			

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		Commenter	Organization	Industry Segment										
				1	2	3	4	5	6	7	8	9	10	
3. Denney Fales			KCPL	SPP						1, 3, 5, 6				
13.	Individual	Michael R. Lombardi	Northeast Utilities	X										
14.	Individual	Lee Pedowicz	NPCC										X	
15.	Individual	Kelly Wolfe	Black Hills Power	X		X								
16.	Individual	Brenda Lyn Truhe	PPL Electric Utilities	X		X								
17.	Individual	Kasia Mihalchuk	Manitoba Hydro	X		X		X	X					
18.	Individual	Frank Cumpton	BGE	X										
19.	Individual	Luke Weber	We Energies			X	X	X						
20.	Individual	Joylyn Faust	Consumers Energy			X	X	X						
21.	Individual	James Sharpe	South Carolina Electric and Gas	X		X		X	X					
22.	Individual	Ralph F Meyer	The Empire District Electric Company	X		X								
23.	Individual	Edwin Thompson	Consolidated Edison Co. of New York	X		X		X	X					
24.	Individual	Michael Ayotte	ITC Holdings	X										
25.	Individual	Richard Kafka	Pepco Holdings, Inc.	X		X		X	X					
26.	Individual	Darryl Curtis	Oncor Electric Delivery LLC	X										
27.	Individual	Todd Lietz	Seattle City Light	X		X							X	
28.	Individual	Jon Kapitz	Xcel Energy	X		X		X	X					

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		Commenter	Organization	Industry Segment										
				1	2	3	4	5	6	7	8	9	10	
29.	Individual	Scott Barfield (behalf of Wayne Pourciau)	Georgia System Operations Corporation			X	X							
30.	Individual	Jason Shaver	American Transmission Company	X										
31.	Individual	Laura Zotter	ERCOT ISO		X									X
32.	Individual	Dan Rochester	Independent Electricity System Operator		X									
33.	Individual	Tony Kroskey	Brazos Electric Power Cooperative, Inc.	X										
34.	Individual	Martin Bauer	US Bureau of Reclamation					X						

1. Requirement R1, part 1.1: ‘prolonged period of time’ was replaced with ‘the time it takes to restore the primary control center functionality’. Do you agree with this change? Please supply specific reasons for your comments.

Summary Consideration: The overwhelming majority of commenters supported the SDT changes. However, there was one comment suggesting a semantic, clarifying change to Requirement R1 that the SDT thought would prove useful.

R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:

Organization	Yes or No	Question 1 Comment
Brazos Electric Power Cooperative, Inc.	No	The following change is suggested:"...until such time that control can be transfered back to the primary control facility."
<p>Response: Your revision provides an interesting clarification. However, the SDT believes it may be too limiting in the cases of entities choosing to continue to use the backup functionality and not transferring back to the primary control center. This may be a likely scenario for entities that have 2 live control centers. No change made.</p>		
ITC Holdings	No	The modification made to address the comments loses sight of the intent which is that you must be prepared for the loss of your primary control for varying lengths of time. Suggest the following language as an alternative: "The location and method of implementation for providing backup functionality during the period of the time that the primary control center functionality is unavailable."
<p>Response: The SDT believes that the standard as written says the same thing your revision suggests, just using different words. Neither implies a specified length of time, only that the backup functionality is needed regardless of the time required. No change made.</p>		
We Energies	Yes	<p>R1 applies to "Each RC, BA, and TOP and requires each to ensure 'reliable operations of the BES'." No single entity can ensure the reliability of the BES. Rather these entities ensure the reliability of the BES working together fulfilling their functional obligations.</p> <p>We suggest "ensures reliable operations of the BES" be changed to "continues to meet their functional obligations."</p>
<p>Response: The SDT agrees that no single entity can ensure the reliability of the entire BES and has replaced that phrase with ‘continues to meet their functional obligations with regard to the reliable operation of the BES...’.</p> <p>R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it</p>		

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Organization	Yes or No	Question 1 Comment
<p>continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:</p>		
American Transmission Company	Yes	
Black Hills Power	Yes	
Bonneville Power Administration	Yes	
Consolidated Edison Co. of New York	Yes	
Consumers Energy	Yes	
Electric Market Policy	Yes	
FirstEnergy	Yes	
Georgia System Operations Corporation	Yes	
Independent Electricity System Operator	Yes	
ISO/RTO Standards Review Committee	Yes	
Kansas City Power & Light	Yes	
Midwest ISO Standards Collaborators	Yes	
Northeast Utilities	Yes	

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Organization	Yes or No	Question 1 Comment
NPCC	Yes	
NPCC Regional Standards Committee	Yes	
Oncor Electric Delivery LLC	Yes	
PacifiCorp	Yes	
Pepco Holdings, Inc.	Yes	
PPL Electric Utilities	Yes	
Seattle City Light	Yes	
SERC OC Standards Review Group	Yes	
South Carolina Electric and Gas	Yes	
Southern Company Transmission	Yes	
US Bureau of Reclamation	Yes	
Xcel Energy	Yes	
ERCOT ISO	Yes	Adds clarity.
BGE	Yes	BGE agrees with the proposed clarification of this statement.
Manitoba Hydro	Yes	The change makes it obvious that a backup plan is required for any failure of the primary control center. The previous statement “prolonged period” provided a loop hole meaning that not all primary control center failures require a backup plan, especially short duration ones.

Organization	Yes or No	Question 1 Comment
MRO's NERC Standards Review Subcommittee	Yes	The MRO supports the change the new verbiage provides clarity lacking in the previous revision.
The Empire District Electric Company	Yes	This provides more clarity.
Upper Peninsula Power Company and Wisconsin Public Service Corp	Yes	Wisconsin Public Service Corp (WPSC) supports the change the new verbiage provides clarity lacking in the previous revision.
Response: Thank you for your response.		

2. Requirement R1, part 1.2.1: ‘allow visualization capabilities’ has been deleted thus placing the onus on situational awareness of the BES. Do you agree with this change? Please supply specific reasons for your comments.

Summary Consideration: The overwhelming majority of commenters supported the SDT’s position. However, there was one clarifying suggestion that the SDT thought provided value as shown below:

Requirement R1, part 1.2: bullet #1 - Tools and applications to ensure that System Operators have situational awareness of the BES.

Organization	Yes or No	Question 2 Comment
Kansas City Power & Light	No	<p>“Tools and applications” are the minimum means established by this standard to have BES awareness. If this implies Energy Management System functionality in whole or in part, then this requirement is too stringent for smaller entities where methods and procedures may be their back-up. Smaller entities that have few substations to monitor may send personnel to monitor those stations.</p>
<p>Response: The concept of situational awareness has been widely used in the electric industry since 2005 where it was used in the blackout reports prepared by NERC and the U.S.-Canada Power System Outage Task Force. In the context of the blackout report, as in standard EOP-008, it means knowing what is going on in the system you control, and having sufficient information to understand what needs to be done to maintain or return to a reliable operating state. Therefore, for each entity, the specific methods and information that would be needed to maintain situational awareness may be different. No change made.</p>		
Manitoba Hydro	No	<p>Cannot find a historic reason why “visual capabilities” is being removed. Data and voice communications along with visual capabilities are all required for situational awareness of the BES.</p> <p>If SDT is considering making changes to 1.2 consider this example:</p> <p>1.2. A summary description of the elements required to support the backup functionality and to provide operating personal situational awareness capabilities and operational control of the BES. These elements shall include, at a minimum:</p> <ul style="list-style-type: none"> 1.2.1. Tools and applications that allow visualization capabilities. 1.2.2. Tool and applications for continuous Data updating and exchange. 1.2.3. Tools and applications to maintain viable Voice communications. 1.2.4. Power source(s). 1.2.5. Physical and cyber security. <p>Data, voice and visual capabilities are three basic elements required for situational awareness for operating</p>

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Organization	Yes or No	Question 2 Comment
		personnel. Removing 'visual', while leaving the voice and data portion of situational awareness does not make sense.(Situational awareness: to detect and interpret information and events and integrate the impact of your own actions in a dynamic environment)
Consolidated Edison Co. of New York	No	It is unrealistic to assume that the RC, TOP, and BA will maintain "situational awareness" without "visualization capabilities". In fact, the 2003 Blackout Report, Recommendation 22 directly addressed this topic. It stated "A principal cause of the August 14 blackout was a lack of situational awareness, which was in turn the result of inadequate reliability tools and backup capabilities. In addition, the failure of FE's control computers and alarm system contributed directly to the lack of situational awareness. Likewise, MISO's incomplete tool set and the failure to supply its state estimator with correct system data on August 14 contributed to the lack of situational awareness. The need for improved visualization capabilities over a wide geographic area has been a recurrent theme in blackout investigations". It is not understood how an entity will demonstrate "situational awareness" without some type of visualization tool; whether their own, or another entities as stated in R3? The SDT should consider re-phrasing the sentence to read "Tools and applications with sufficient visualization capability to ensure situational awareness of the BES".
<p>Response: The SDT agrees that visualization capabilities are needed to ensure that situational awareness exists. The industry comments to previous postings indicated that the industry did not understand what visualization capabilities were. Since visualization is a component of situational awareness, the SDT removed the visualization language from the standard, with the understanding that some tools, applications, and visualization will be necessary to demonstrate situational awareness. No change made.</p>		
Consumers Energy	No	Neither statement is terribly efficient. Both leave ambiguity in the standard. Suggested verbiage would include: "Tools and applications to ensure similar functionality as available at the Primary Control Center."
<p>Response: The SDT did not want to specify that displays and visualization tools used at the primary control center must be exactly duplicated at the backup control facility, but did want to use language that made it clear that operating personnel had to have sufficient information to remain aware of the state of the system, and have an understanding of what was needed to maintain or restore the system to a reliable operating state. The SDT believes that the long used and accepted concept of situational awareness explained that concept. No change made.</p>		
Xcel Energy	No	Comments: what tools constitute adequate situational awareness? Is there a reference or another standard that would define this?
MRO's NERC Standards Review Subcommittee	No	The MRO agrees with the removal of the phrase "allows visualization of capabilities" but disagrees with the addition of the phrase "situational awareness of the BES." "Situational awareness of the BES" is neither a defined term nor is it a requirement for a primary control center. Using this term would result in the request for interpretations, inconsistent enforcement, or rule making through enforcement. To address this issue the

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Organization	Yes or No	Question 2 Comment
		MRO suggest the verbiage of R1.2.1 be revised to state:"1.2.1. Tools and applications that ensures reliable operations of the BES."
Upper Peninsula Power Company and Wisconsin Public Service Corp	No	Wisconsin Public Service Corp agrees with the removal of the phrase "allows visualization of capabilities" but disagrees with the addition of the phrase "situational awareness of the BES." "Situational awareness of the BES" is neither a defined term nor is it a requirement for a primary control center. Using this term would result in the request for interpretations, inconsistent enforcement, or rule making through enforcement. To address this issue the Wisconsin Public Service Corp suggest the verbiage of R1.1.2 be revised to state:"1.2.1. Tools and applications that ensures reliable operations of the BES."
Southern Company Transmission	Yes	More definition of the term "situational awareness" would be helpful
<p>Response: While situational awareness is not a defined term, it has been widely used in the electric industry since 2005 where it was used in the blackout reports prepared by NERC and the U.S.-Canada Power System Outage Task Force. In the context of the blackout report, as in standards EOP-008 it means knowing what is going on in the system you control, and having sufficient information to understand what needs to be done to maintain or return to a reliable operating state. No change made.</p>		
We Energies	No	The term "situational awareness" is subject to interpretation. Since R3 and R4 already specify backup control center capability "... that includes monitoring, control, logging, and alarming sufficient for maintaining compliance with all Reliability Standards that depend on a (Balancing Authority and Transmission Operator's) primary control center functionality ..." it recommended that R1.2.1 be eliminated from the standard.
<p>Response: Requirement R1, part 1.2 is intended to provide a minimum list of the elements needed to provide adequate backup functionality. One of those is the ability of operating personnel to have sufficient information to remain aware of the state of the system and to understand what needs to be done to maintain or return to a reliable operating state. This concept of situational awareness, while not a defined term, has been widely used in the electric industry since 2005 where it was used in the blackout reports prepared by NERC and the U.S.-Canada Power System Outage Task Force. The BFSDT believes that requirement 1.2.1 provides clarity to the elements that are expected to be provided. No change made.</p>		
ERCOT ISO	No	<p>This change is an improvement however; the phrase 'situational awareness of the BES' is undefined, unmeasurable, and therefore open to interpretation. ERCOT ISO proposes changing 1.2.1 to read "Tools and applications that facilitate reliable operation of the BES"</p> <p>Also open to interpretation is 'operating personnel', which ERCOT ISO also thinks should be changed to 'System Operator'.</p>
<p>Response: While situational awareness is not a defined term, it has been widely used in the electric industry since 2005 where it was used in the blackout reports prepared by NERC and the U.S.-Canada Power System Outage Task Force. In the context of the blackout report, as in standard EOP-008 it means knowing what</p>		

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Organization	Yes or No	Question 2 Comment
<p>is going on in the system you control, and having sufficient information to understand what needs to be done to maintain or return to a reliable operating state. No change made.</p> <p>System Operator – The SDT assumes you meant Part 1.2.1 and if so, agrees with your comment on replacing ‘operating personnel’ with ‘System Operators’.</p> <p>Requirement R1, part 1.2, bullet #1 - Tools and applications to ensure that System Operators have situational awareness of the BES</p>		
American Transmission Company	Yes	
Black Hills Power	Yes	
Bonneville Power Administration	Yes	
Brazos Electric Power Cooperative, Inc.	Yes	
Electric Market Policy	Yes	
FirstEnergy	Yes	
Georgia System Operations Corporation	Yes	
Independent Electricity System Operator	Yes	
ISO/RTO Standards Review Committee	Yes	
Midwest ISO Standards Collaborators	Yes	
Northeast Utilities	Yes	
NPCC	Yes	

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Organization	Yes or No	Question 2 Comment
NPCC Regional Standards Committee	Yes	
Oncor Electric Delivery LLC	Yes	
PacifiCorp	Yes	
Pepco Holdings, Inc.	Yes	
PPL Electric Utilities	Yes	
Seattle City Light	Yes	
SERC OC Standards Review Group	Yes	
South Carolina Electric and Gas	Yes	
The Empire District Electric Company	Yes	
US Bureau of Reclamation	Yes	
BGE	Yes	BGE agrees this change is acceptable.
ITC Holdings	Yes	None
Response: Thank you for your response.		

3. Requirements R3 & R4: ‘when control has been transferred to the backup...’ was added to emphasize that operators are only required at the backup when it is in service. Do you agree with this change? Please supply specific reasons for your comments.

Summary Consideration: The overwhelming majority of industry comments agreed with the SDT’s position and no changes have been made to the standard based on the comments received here.

Organization	Yes or No	Question 3 Comment
ERCOT ISO	Yes	Adds clarity; however ERCOT ISO thinks the phrase in the last sentence of R4 “To avoid requiring tertiary functionality,” could lead to confusion and therefore recommends striking this phrase. The remaining language speaks for itself and, we believe, the intent of the requirement.
<p>Response: The SDT felt that this phrasing “To avoid requiring tertiary functionality” was needed to add clarity to the requirement. This statement would eliminate possible confusion so that entities did not think that a third facility would be required during maintenance outages to the backup facility. No change made.</p>		
MRO's NERC Standards Review Subcommittee	Yes	The MRO supports the clarification described in R4. We suggest removing the phrase “of two weeks or less.” The length of allowable outage regardless if it is planned or unplanned has the same effect on the BES and should be treated consistently in R8.
Upper Peninsula Power Company and Wisconsin Public Service Corp	Yes	The Wisconsin Public Service Corp supports the clarification described in R4. We suggest removing the phrase “of two weeks or less.” The length of allowable outage regardless if it is planned or unplanned has the same effect on the BES and should be treated consistently in R8.
<p>Response: The SDT felt that a timeframe was essential with respect to planned outages to the backup functionality otherwise an entity could have its backup functionality out of service under a planned condition indefinitely. This would create a major gap within the standard. The two week timeframe was considered a reasonable timeframe for planned outages by the SDT. No change made.</p>		
ISO/RTO Standards Review Committee	Yes	We agree with the changes but suggest rewording that part pertaining to compliance to reliability standards as follows: Each Reliability Coordinator shall have a backup control center facility (provided through its own dedicated backup facility or at another entity's control center staffed with certified Reliability Coordinator operators when control has been transferred to the backup facility) that provides the functionality required for fulfilling its functional obligations. To avoid requiring a tertiary facility, a backup facility is not required during: [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]
<p>Response: The SDT felt that using “maintaining compliance with all Reliability Standards that depend on primary control center functionality’ was more specific and identified the requirement to meet NERC standards and not just functional obligations. No change made.</p>		

Organization	Yes or No	Question 3 Comment
FirstEnergy	Yes	While we agree with the change to emphasize that operators are only required at the backup facility when it is in service, upon further reflection we question the need to specify that certified staff are required in requirements R3 and R4, respectively: "staffed with certified Reliability Coordinator operators" and "staffed by applicable certified operators". The requirement for staffing with certified operators is contained in PER-003 which makes no distinction between primary and backup control centers. Adding this certification language to this standard essentially duplicates the requirement in PER-003. In addition, the delegation of a task requires comparable certification for those performing that task and the NERC Standards Committee is working to document this in the NERC Rules of Procedure. Therefore, we believe these statements are redundant to PER-003 and suggest they be removed.
<p>Response: The SDT believes that the requirement as written is necessary to make clear that contracted backup services need to be staffed with NERC certified operators. The proposed draft of PER-003 is suggesting that the cited requirement be deleted. Therefore, the SDT feels that the requirement is necessary here to ensure that qualified operators are available. No change made.</p>		
American Transmission Company	Yes	
Black Hills Power	Yes	
Bonneville Power Administration	Yes	
Brazos Electric Power Cooperative, Inc.	Yes	
Consolidated Edison Co. of New York	Yes	
Consumers Energy	Yes	
Electric Market Policy	Yes	
Georgia System Operations Corporation	Yes	
Independent Electricity System	Yes	

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Organization	Yes or No	Question 3 Comment
Operator		
Kansas City Power & Light	Yes	
Midwest ISO Standards Collaborators	Yes	
Northeast Utilities	Yes	
NPCC	Yes	
NPCC Regional Standards Committee	Yes	
Oncor Electric Delivery LLC	Yes	
PacifiCorp	Yes	
Peppo Holdings, Inc.	Yes	
PPL Electric Utilities	Yes	
Seattle City Light	Yes	
SERC OC Standards Review Group	Yes	
South Carolina Electric and Gas	Yes	
Southern Company Transmission	Yes	
The Empire District Electric Company	Yes	

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Organization	Yes or No	Question 3 Comment
US Bureau of Reclamation	Yes	
We Energies	Yes	
Xcel Energy	Yes	
BGE	Yes	BGE agrees this change is a necessary clarification.
ITC Holdings	Yes	None
Manitoba Hydro	Yes	Sometimes stating the obvious removes all doubt. Without the addition of this statement, it could be perceived that when control is transferred to a backup facility, qualified staff would not be required. This also enhances M3 and M4 measures. This clarifies that qualified staff are required to operate the backup facility when it is in control.
<p>Response: Thank you for your response.</p>		

4. Requirement R6: ‘can independently maintain’ was replaced with ‘do not depend on each other...’ Do you agree with this change? Please supply specific reasons for your comments.

Summary Consideration: The majority of industry comments agreed with the SDT’s changes. However, there were some suggestions for additional clarity that the SDT thought provided value as shown below.

Requirement R5, part 5.1 - An update and approval of the Operating Plan for backup functionality shall take place within sixty calendar days of any changes to any part of the Operating Plan described in Requirement R1.

R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.

R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.

Organization	Yes or No	Question 4 Comment
Electric Market Policy	No	
Response: Without a specific comment, the SDT is unable to respond.		
Georgia System Operations Corporation	No	Instead of "primary and backup capabilities do not depend on each other" is would read better for consistency and clarity "primary and backup functionalities do not depend on each other". The same goes for R5.1 and R8 and the associated measures where the word "capabilities" was used.
<p>Response: The SDT agrees that “capabilities” should be changed to “functionality” as you have requested. However, it must be understood that a Reliability Coordinator achieves this through a backup facility and the Balancing Authority and Transmission Operator can do so through a backup facility or contracted services.</p> <p>R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.</p> <p>Requirement R5, part 5.1 - An update and approval of the Operating Plan for backup functionality shall take place within sixty calendar days of any changes to any part of the Operating Plan described in Requirement R1.</p> <p>R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.</p>		

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Organization	Yes or No	Question 4 Comment
Consolidated Edison Co. of New York	No	The language can be clarified by stating “.....shall have independent primary and backup capabilities and functionalities required to” The term “do not depend on each other” should be removed since its meaning is vague.
<p>Response: The SDT believes that “do not depend on each other” is appropriate language to use here. There certainly are many ways to word this requirement, but the vast majority of commenters agreed with this language and the SDT will proceed with the majority’s opinion. No change made.</p>		
MRO's NERC Standards Review Subcommittee	No	The phrase “do not depend on each other for” is no less ambiguous than “can independently maintain” therefore the MRO does not support this change. Furthermore, the required level of redundancy and separation can not be adequately defined until the scope (radius) of damage to the primary control center is defined and if other single failure (n-1) scenarios must be considered. The MRO suggests that the N-1 scenario includes, and should be limited to, the primary control center and its energy management system. Other systems, communication systems and communication rooms outside of the rooms that house primary control center or primary energy management system would be assumed to be intact and fully operable. Failure to first define the level of assumed damage will result in the request for interpretations, inconsistent enforcement, and rule making through enforcement.
Upper Peninsula Power Company and Wisconsin Public Service Corp	No	<p>The phrase “do not depend on each other for” is no less ambiguous than “can independently maintain” therefore Wisconsin Public Service Corp does not support this change.</p> <p>Furthermore the required level of redundancy and separation can not be adequately defined until the scope (radius) of damage to the primary control center is defined and if other single failure (n-1) scenarios must be considered. Wisconsin Public Service Corp suggests that the N-1 scenario include, and be limited to, the primary control center and its energy management system. Other systems, communication systems and communication rooms outside of the rooms that house primary control center or primary energy management system would be assumed to be intact and fully operable. Failure to first define the level of assumed damage will result in the request for interpretations, inconsistent enforcement, and rule making through enforcement.</p>
<p>Response: The SDT believes that “do not depend on each other” is appropriate language to use here. There certainly are many ways to word this requirement, but the vast majority of commenters agreed with this language and the SDT will proceed with the majority’s opinion. No change made.</p> <p>Regarding the N-1 scenario, the SDT is citing requirements for what to do to maintain the functionality required to achieve compliance with Reliability Standards with your backup functionality. The SDT is not stating how an entity accomplishes this. No change made.</p>		
Black Hills Power	No	The phrase “primary and backup capabilities that do not depend on each other for the functionality required to maintain compliance with Reliability Standards” is unclear and implies a requirement of redundant facilities well outside of the control center. For example, a loss of “capability” may be considered to have occurred a)

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Organization	Yes or No	Question 4 Comment
		<p>in the event of a loss of SCADA communications caused by equipment failures outside of the control center or b) loss of RTU functionality within a substation. In this case, a “primary capability” (i.e. EMS tie line monitoring obtained from a failed substation RTU or a failed communications circuit) depends on a “backup capability” (the same RTU and/or communications circuit) which are both removed from the control center. As written, the Standard seems to require redundant communications and RTUs since a “loss of capability” would exist in these cases. I suspect that the Standard is actually intended to only provide redundancy of equipment located at the control center facility but, as written, seems to actually require redundancy of equipment far away from the control center. This is too broad of a scope for the implied intent of this Standard and should be re-written</p>
<p>Response: The SDT believes that “do not depend on each other” is appropriate language to use here. There certainly are many ways to word this requirement, but the vast majority of commenters agreed with this language and the SDT will proceed with the majority’s opinion. No change made.</p> <p>The SDT is citing requirements for what to do to maintain the functionality required to achieve compliance with Reliability Standards with your backup functionality. The SDT is not stating how an entity accomplishes this. No change made.</p>		
Brazos Electric Power Cooperative, Inc.	No	There is a question on whether operating personnel are excluded from "capability".
<p>Response: Personnel are excluded until control is transferred to the facility, which was clarified by the wording added to Requirements R3 and R4 in the fourth posting. No change made.</p>		
ERCOT ISO	No	<p>To completely mitigate any potential confusion of the independence applied to the relationship between each entity’s primary and back-up control center and the independence between the facilities of different entities (different RCs, TOs and/or BAs), the requirement could read as follows: R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup capabilities. The primary and back-up facilities of an entity subject to this requirement shall be independent of each other with respect to the functionality required to maintain compliance with Reliability Standards. [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]</p>
We Energies	Yes	<p>Suggest adding the words "applicable to the Functional Entity" at the end: “Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup capabilities that do not depend on each other for the functionality required to maintain compliance with Reliability Standards applicable to the Functional Entity.”</p>
<p>Response: The SDT does not feel that the suggested wording change provides any additional clarity. No change made.</p>		

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Organization	Yes or No	Question 4 Comment
Midwest ISO Standards Collaborators	No	We do not see the need for this change but can accept it if it will help others to support the standard.
Response: The change was implemented by the SDT due to comments from others in the industry, and we appreciate your flexibility.		
SERC OC Standards Review Group	No	We suggest adding the three (3) phrases (in quotes) in the sentence for additional clarification: Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup “control center” capabilities that do not depend on each other “or any common capability” for the functionality required, “as mentioned in R1, section 1.2”, to maintain compliance with Reliability Standards.
South Carolina Electric and Gas	No	We suggest adding the three (3) phrases (in quotes) in the sentence for additional clarification: Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup “control center” capabilities that do not depend on each other “or any common capability” for the functionality required, “as mentioned in R1, section 1.2”, to maintain compliance with Reliability Standards
Response: The SDT has made the requested change to the requirement. R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.		
American Transmission Company	Yes	
Bonneville Power Administration	Yes	
Independent Electricity System Operator	Yes	
ISO/RTO Standards Review Committee	Yes	
Kansas City Power & Light	Yes	
Northeast Utilities	Yes	

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Organization	Yes or No	Question 4 Comment
NPCC	Yes	
NPCC Regional Standards Committee	Yes	
Oncor Electric Delivery LLC	Yes	
PacifiCorp	Yes	
Pepco Holdings, Inc.	Yes	
PPL Electric Utilities	Yes	
Seattle City Light	Yes	
Southern Company Transmission	Yes	
The Empire District Electric Company	Yes	
US Bureau of Reclamation	Yes	
Xcel Energy	Yes	
BGE	Yes	BGE agrees with the proposed clarification.
FirstEnergy	Yes	FE supports this change and thanks the SDT for incorporating our suggested change.
ITC Holdings	Yes	None
Manitoba Hydro	Yes	This does improve the statement and Measure R6 to more clearly indicate that the backup facility cannot be dependent on the primary facility.
Response: Thank you for your response.		

5. The SDT has made changes to the VSLs for this project based on the latest VSL guidelines. Do you agree with these changes? If not, please provide specific reasons for your comment.

Summary Consideration: The majority of the comments received agree with the SDT’s position. However, some commenters suggested some clarifying changes for which the SDT saw merit as shown below:

<p>R5 VSL</p>	<p>The responsible entity did not update and approve its Operating Plan for backup functionality for more than 60 calendar days and less than or equal to 70 calendar days after a change to any part of the Operating Plan described in Requirement R1.</p>	<p>The responsible entity did not update and approve its Operating Plan for backup functionality for more than 70 calendar days and less than or equal to 80 calendar days after a change to any part of the Operating Plan described in Requirement R1.</p>	<p>The responsible entity did not update and approve its Operating Plan for backup functionality for more than 80 calendar days and less than or equal to 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.</p>	<p>The responsible entity did not have evidence that it's dated, current, in force Operating Plan for backup functionality was annually reviewed and approved.</p> <p>OR,</p> <p>The responsible entity did not update and approve its Operating Plan for backup functionality for more than 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.</p>
<p>R6 VSL</p>	<p>N/A</p>	<p>The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Lower VRF.</p>	<p>The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Medium VRF.</p>	<p>The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a High VRF.</p>

R7 severe VSL - The responsible entity did not conduct an annual test of its Operating Plan for backup functionality. OR, the responsible entity conducted an annual test of its Operating Plan for backup functionality but the test was for less than 0.5 continuous hours.

Organization	Yes or No	Question 5 Comment
Independent Electricity System Operator	No	<p>(1) R6: We do not agree with determining VSLs according to the VRF levels. A VRF represents the level of reliability impact on the bulk electric system if the requirement is not met; whereas a VSL represents the extent to which a requirement is not met. The latter is independent of the former.</p> <p>(2) R7, Medium VSL: The condition before the “OR” is missing.</p>
ISO/RTO Standards Review Committee	No	<p>AESO would note that it does not comment on VSLs as VSLs are a Canadian Provincial matter</p> <p>(1) R6: We do not agree with determining VSLs according to the VRF levels. A VRF represents the level of reliability impact on the bulk electric system if the requirement is not met; whereas a VSL represents the extent to which a requirement is not met. The latter is independent of the former.</p> <p>(2) R7, Medium VSL: The condition before the “OR” is missing.</p>
<p>Response: 1. The SDT agrees that there is no correlation between VRF and VSL for an individual requirement. That is not what is happening here. The VSL for Requirement R6 is not referring to the VRF for Requirement R6. It is referring to all applicable requirements for a responsible entity that have a Lower VRF assigned to them in the respective standards. No change made.</p> <p>2. There is no ‘Medium’ VSL category. The SDT believes you may have been referring to the ‘Moderate’ category. If so, it appears that you are looking at the redline copy which does contain an inadvertent ‘OR’. This was fixed in the clean copy and the ‘OR’ is no longer there.</p>		
Manitoba Hydro	No	<p>Changes to R1 are fine</p> <p>Changes to R2 new VSL definitions are clearer. Could argue that the two VSL’s be Lower and Moderate instead of Moderate and Severe but have no justification for this at this time.</p> <p>Change to R3 coincides with revision to Requirement R3 - fine.</p> <p>Change to R4 coincides with revision to Requirement R4 - fine.</p> <p>Changes to R5 are fine.</p> <p>R6 - Not sure why entities would have different VRF for the same requirement and therefore placed in different VSLs?</p> <p>R7- VSL as written focus too much on time lines, not whether the run was successful, or documented or done annually.</p> <p>VSL Lower - Did not document results of annual test, transition period or successful run greater than 2 hours.</p>

Organization	Yes or No	Question 5 Comment
		<p>VSL Moderate - Documented all, ran successful, but did not exceed 2 hours.</p> <p>VSL High - Documented all, ran successfully but test not done annually.</p> <p>VSL Severe -Combination of any two of the other two VSL's</p> <p>R8 - Instead of time line windows of reporting for each VSL, create specific failures.</p> <p>VSL Lower - Failed to identify loss will be greater than 6 months</p> <p>VSL Moderate - Failed to provide a plan when loss expected to exceed 6 months.</p> <p>VSL High - Failed to provide a plan within 6 months of failure. VSL Severe -</p>
<p>Response: R1 through R5 – Thank you for your comment.</p> <p>R6 – The VSL for Requirement R6 is not referring to the VRF for Requirement R6. It is referring to all applicable requirements for a responsible entity that have a Lower VRF assigned to them in the respective standards. No change made.</p> <p>R7 – The SDT feels that it would be difficult to determine whether a test was “successful”, and that one purpose of a test is to identify shortcomings. Also, Requirement R7 does not include language about the “success” of the test so it would be inappropriate to include such criteria in the VSL. The SDT believes the duration of the test is important because it addresses the ability of the entity to operate using backup functionality for extended periods of time. No change made.</p> <p>R8 – It is difficult to see how a VSL of Lower could occur under the suggested language. An estimated schedule for restoring capability would be a fundamental element of a plan to re-establish backup functionality submitted to the Regional Entity. Accordingly, the SDT believes that a document submitted to the Regional Entity regarding re-establishment of backup capability but without an estimated time line for doing so would not be considered a plan meeting this requirement and would be a severe violation. With the suggested language, the Moderate language seems to be more severe than the High language because the Moderate language states that a plan was never supplied while the High language indicates only that it was provided late. This does not meet the intent of the SDT. No change made.</p>		
MRO's NERC Standards Review Subcommittee	No	<p>R1, R2, and R8 are documentation issues not a functionality issue. Therefore the maximum severity should be no more than moderate.</p> <p>With regards to R5, this is a documentation issue related to the control centers. It is not a functionality issue. Therefore it is hard to conceive of a documentation issue that could have a significant adverse affect on the reliability of the BES. Furthermore the materiality of the omitted updated material must be included in any discussion of risk factors. For example, failure to include and updated phone number in the plan documented has little or no affect on the reliability and safety of the BES. Whereas, outdated instructions on how to establish data communication would have more significance. Furthermore it is hard to conceive of a scenario of how an annual review, regardless of the definition of annual, overdue by one day could significantly affect the reliability of the BES especially if that annual review did not identify any changes. As R5 deals with</p>

Organization	Yes or No	Question 5 Comment
		<p>documentation and not functionality, violations of R5 should be low.</p> <p>With regards to R7, the failure to test or surveil a function should only be considered a high or severe issue if the lack of surveillance failed to assure or could have failed to assure an adequate response to a real event.</p>
<p>Upper Peninsula Power Company and Wisconsin Public Service Corp</p>	<p>No</p>	<p>R1, R2, and R8 are documentation issues not a functionality issue. Therefore the maximum severity should be no more than low.</p> <p>With regards to R5, this is a documentation issue related to the control centers. It is not a functionality issue. Therefore it is hard to conceive of a documentation issue that could have a significant adverse affect on the reliability of the BES. Furthermore the materiality of the omitted updated material must be included in any discussion of risk factors. For example, failure to include and updated phone number in the plan documented has little or no affect on the reliability and safety of the BES. Whereas, outdated instructions on how to establish data communication would have more significance. Furthermore it is hard to conceive of a scenario of how an annual review, regardless of the definition of annual, overdue by one day could significantly affect the reliability of the BES especially if that annual review did not identify any changes. As R5 deals with documentation and not functionality, violations of R5 should be low.</p> <p>With regards to R7, the failure to test or surveil a function should only be considered a high or severe issue if the lack of surveillance failed to assure or could have failed to assure an adequate response to a real event.</p>
<p>Response: VSLs are not based on the risk to the BES; that concept is covered by the VRF. VSLs address the extent of the violation, i.e., did an entity fail to address the requirement at all, or did they address the spirit of the requirement but miss only a specific detail. Note that two of the requirements you note do have Lower VRFs and the others are Medium. For example, Requirements R1 and R8 have medium VRFs because the risk is not that the entity will not have documentation of the plans, but that they will not do the planning. Failure to plan for the loss of control center functionality could have an adverse effect on the reliability of the BES. No change made</p>		
<p>Bonneville Power Administration</p>	<p>No</p>	<p>Suggest reordering the sentences in VSL-R4 to put what they “did not” do prior to the phrase “when control has been transferred to the backup functionality location ...”.</p> <p>There appears to be no difference between Lower, Moderate and Severe except the reference to VRF. But the R4 standard Risk Factor is Medium risk. It appears to be trying to refer to Standards other than EOP-008 for functionality issues, but there is no list ... just ANY standards as applicable.</p> <p>R7 - Suggested Revisions:</p> <p>Lower = Test did not asses the transition and implementation times... remove the “OR”;</p> <p>Moderate = no documentation or test less than 2 hours...;</p>

Organization	Yes or No	Question 5 Comment		
		High = Test was less than 1 hour; Severe = NO annual test or less than 0.5 hrs.		
<p>Response: R4 – The SDT believes that if the suggested change was made the VSL would no longer match the wording or intent of the requirement. No change made.</p> <p>VRF – The SDT agrees that there is no correlation between VRF and VSL for an individual requirement. That is not what is happening here. The VSL for Requirement R4 is not referring to the VRF for Requirement R4. It is referring to all applicable requirements for a responsible entity that have a Lower VRF assigned to them in the respective standards. No change made.</p> <p>R7 – The SDT believes that the original VSLs correctly reflect the importance of each potential violation. No change made.</p>				
We Energies	No	The VSLs for R1 should state clearly whether R1.2 is considered one requirement or several requirements. The VSLs for R6 should not be more severe than the VRFs for the applicable Reliability Standards. These VSLs are also tricky to read because they employ double negatives. Recommend wording such as “The responsible entity has primary and backup capabilities that depend on each other for the functionality required to maintain compliance with Reliability Standards applicable to the entity that have a Lower VRF.”		
<p>Response: R1 – Requirement R1, part 1.2 is not a requirement but a part of Requirement R1. The sub-parts shown under part 1.2 are to be considered as a whole, i.e., missing one of them would indicate that an entity has missed all of part 1.2. No change made.</p> <p>R6 – VRFs and VSLs are not directly comparable. Since there are only three levels of VRFs the SDT believes that it is appropriate to link them to the three most severe classifications of VSLs.</p> <p>Double negatives – The SDT agrees and has made the suggested changes.</p>				
R6 VSL	N/A	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Lower VRF.	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Medium VRF.	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a High VRF.

Organization	Yes or No	Question 5 Comment		
Kansas City Power & Light	No	VSL for R8 has a “responsible entity” coordinating with a Regional Entity. My understanding of Regional Entity is that represents a compliance organization. Shouldn’t a Registered Entity coordinate and communicate with other operating entities such as their Regional Reliability Organization, Reliability Authority or Reliability Coordinator? And wouldn’t a Reliability Authority or Reliability Coordinator coordinate with other operating entities such as other TOP’s, BA’s, Reliability Authorities or Reliability Coordinators?		
<p>Response: The compliance entity is the right entity in this regard. Coordination is not the issue. Planning to recover from a catastrophe is the issue. No change made.</p>				
SERC OC Standards Review Group	No	<p>We suggest changing the VSLs for R5 to have a range of 30 calendar days in each of the Low, Moderate and High columns as opposed to 10 calendar days. These plans are reviewed annually and this time frame seems to line up better.</p> <p>Also, the VSLs for R5 do not parallel Section 5.1 of R5. The key part of Section 5.1 is “An update and approval of the Operating Plan”. The VSLs currently do not contemplate reapproving the plan. An alternative solution would be to separate Section 5.1 into a unique requirement for “update” and 5.2 unique requirement for “approval”.</p> <p>We also suggest making conforming changes to the VSLs for requirement 6 as noted in Question 4.</p>		
<p>Response: R5 – The SDT has assigned the intervals based on established guidelines so that the intervals are more in line with the general timeframe involved. Changing the intervals to 30 days would create a 50% buffer which is considered too large. No change made.</p> <p>Section 5.1 – It is the SDT’s position that the update of the Operating Plan is not complete until it has been approved. The SDT has changed the text of the VSL to clarify this point.</p>				
R5 VSL	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 60 calendar days and less than or equal to 70 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 70 calendar days and less than or equal to 80 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 80 calendar days and less than or equal to 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not have evidence that it’s dated, current, in force Operating Plan for backup functionality was annually reviewed and approved. OR, The responsible entity did not update and approve its Operating Plan for backup functionality for more than 90

Organization	Yes or No	Question 5 Comment		
				calendar days after a change to any part of the Operating Plan described in Requirement R1.
<p>R6 - The SDT did not believe the additional language suggested in question 4 added any clarity to the requirement and no change was made in question 4 so no change is required here.</p>				
South Carolina Electric and Gas	No	<p>We suggest changing the VSLs for R5 to have a range of 30 calendar days in each of the Low, Moderate and High columns as opposed to 10 calendar days. These plans are reviewed annually and this time frame seems to line up better.</p> <p>Also, the VSLs for R5 do not parallel Section 5.1 of R5. The key part of Section 5.1 is “An update and approval of the Operating Plan”. The VSLs currently do not contemplate reapproving the plan. An alternative solution would be to separate Section 5.1 into a unique requirement for “update” and 5.2 unique requirement for “approval”.</p> <p>We also suggest making conforming changes to the VSLs for requirement 6 as noted in Question 4.</p> <p>For clarification in requirement 1 the VSL talks about "requirement's Parts." Is this the same thing as subrequirements? If not, is Parts a defined term (hence the capitalization)?</p>		
<p>Response: R5 – The SDT has assigned the intervals based on established guidelines so that the intervals are more in line with the general timeframe involved. Changing the intervals to 30 days would create a 50% buffer which is considered too large. No change made.</p> <p>Section 5.1 – It is the SDT’s position that the update of the Operating Plan is not complete until it has been approved. The SDT has changed the text of the VSL to clarify this point.</p>				
R5 VSL	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 60 calendar days and less than or equal to 70 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 70 calendar days and less than or equal to 80 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not update and approve its Operating Plan for backup functionality for more than 80 calendar days and less than or equal to 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.	The responsible entity did not have evidence that it’s dated, current, in force Operating Plan for backup functionality was annually reviewed and approved. OR, The responsible entity did not update and approve its Operating Plan for backup

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Organization	Yes or No	Question 5 Comment		
				functionality for more than 90 calendar days after a change to any part of the Operating Plan described in Requirement R1.
<p>R6 - The SDT did not believe the additional language suggested in question 4 added any clarity to the requirement and no change was made in question 4 so no change is required here.</p> <p>Parts – Moving forward, there will no longer be sub-requirements in the standards. This was part of the ERO filing on the ‘roll-up’ of requirements and VRFs. Parts are capitalized as a grammatical construct and are not a defined term. No change made.</p>				
Southern Company Transmission	Yes	<p>Recommend wording change for VSL R6 to read “The responsible entity has primary and backup capabilities that depend on each other for the functionality required to maintain...”</p> <p>There seems to be a discrepancy between R6 which has a VRF of Medium and the VSL Table references which has lower and high as well as medium.</p> <p>R7 Moderate VSL appears to be missing a critical paragraph before the “OR”.</p> <p>R7 Severe appears to be missing a “than” before “0.5 continuous hours”.</p>		
<p>Response: 1. The SDT has revised the VSLs for Requirement R6 based on your suggestion.</p>				
R6 VSL	N/A	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Lower VRF.	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a Medium VRF.	The responsible entity has primary and backup functionality that do depend on each other for the control center functionality required to maintain compliance with Reliability Standards applicable for the entity that have a High VRF.
<p>2. There is no correlation between the VRF assigned to a requirement and the VSL. VRF is an indication of the seriousness of not adhering to the requirement and the effect that would have on the bulk power system. VSL is an after-the-fact measure of how badly an entity missed the mark. No change made.</p> <p>3. The “OR” should not have been included. Only one criterion was intended for the Moderate level.</p>				

Organization	Yes or No	Question 5 Comment
<p>4. The SDT agrees and has made the change.</p> <p>R7 severe VSL - The responsible entity did not conduct an annual test of its Operating Plan for backup functionality. OR, The responsible entity conducted an annual test of its Operating Plan for backup functionality but the test was for less than 0.5 continuous hours.</p>		
Consolidated Edison Co. of New York	Yes	
Consumers Energy	Yes	
Electric Market Policy	Yes	
ERCOT ISO	Yes	
FirstEnergy	Yes	
Northeast Utilities	Yes	
NPCC	Yes	
NPCC Regional Standards Committee	Yes	
Oncor Electric Delivery LLC	Yes	
PacifiCorp	Yes	
Pepco Holdings, Inc.	Yes	
PPL Electric Utilities	Yes	
Seattle City Light	Yes	
The Empire District Electric Company	Yes	

Consideration of Comments on 4th draft of Back-up Facilities Standards — Project 2006-04

Organization	Yes or No	Question 5 Comment
US Bureau of Reclamation	Yes	
BGE	Yes	BGE agrees with the changes to the VSLs.
Response: Thank you for your response.		

6. Do the proposed revisions to the standard pose any new issues or questions that haven't been raised and previously addressed? Please provide specific reasons for your comment.

Summary Consideration: One commenter requested a semantic change for additional clarity above and beyond the ones suggested in the previous questions which is shown below.

Data Retention bullet #1 – Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall retain its dated, current, in force Operating Plan for backup functionality for the time period since its last compliance audit in accordance with Measurement M1.

Data Retention bullet #5 - Each Reliability Coordinator, Balancing Authority, and Transmission Operator, shall retain evidence for the time period since its last compliance audit, that its dated, current, in force Operating Plan for backup functionality, has been reviewed and approved annually and that it has been updated within sixty calendar days of any changes to the capabilities described in Requirement R1 in accordance with Measurement M5.

In addition, the following changes were noted in earlier questions and repeated here.

R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:

Requirement R1, part 1.2, bullet #1 - Tools and applications to ensure that System Operators have situational awareness of the

Requirement R5, part 5.1 - An update and approval of the Operating Plan for backup functionality shall take place within sixty calendar days of any changes to any part of the Operating Plan described in Requirement R1.

R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that does not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.

R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.

Organization	Yes or No	Question 6 Comment
BGE	No	It appears to be inconsistent that R4 requires obtaining a tertiary facility for planned outages lasting over 2 weeks, but that for forced outages of a primary or back up control center the only requirement, per R8, is to provide a plan within 6 months showing how the entity will re-establish backup capability but with no time-frame requirements.
<p>Response: The SDT does not see any inconsistency between Requirement R4 and Requirement R8. Planned outages indicate a degree of control where you can determine the length of the outage and plan accordingly. The 2 week time period is a reasonable limit for most situations that the SDT could come up with.</p>		

Organization	Yes or No	Question 6 Comment
<p>With an unplanned outage, you have no (or little) control over the initiation or length of the outage. The SDT felt that it would be unreasonable to place a hard and fast time limit on unplanned outages as any time limit could eventually lead to requiring a tertiary system. Therefore, no time limit was placed in Requirement R4 and a six month time limit for a plan was established in Requirement R8. No change made.</p>		
ITC Holdings	No	<p>Suggest the following re-wording of Requirement 6 for clarity and alignment with R4: "Each RC, BA and TOP shall have primary and backup functionality, as identified in R3 and R4, which are not dependent on each other."</p> <p>In Requirement 8, suggest the following re-wording to align with R3 and R4: replace the word "capability" with "functionality".</p>
<p>Response: The SDT agrees that "capabilities" should be changed to "functionality" as you have requested. However, the addition of requirements R3 & r4 is seen as redundant verbiage that does not provide any additional clarity and that change has not been made.</p> <p>R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.</p> <p>R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.</p>		
ISO/RTO Standards Review Committee	Yes	<p>(1) R1: Entities cannot "ensure" reliable operations of the BES. They can operate the BES within their footprint to contribute to interconnected system reliability in accordance with their responsible functionalities. We suggest "ensures reliable operations of the BES" be changed to "continues to meet their functional obligations".</p> <p>(2) We think that this requirement puts the BA at a difficult and even non-compliant situation since the BA as a functional entity is not required to have access to the transmission conditions on the BES. Similarly, the TOP may not have access to any generation-load-interchange balance information.</p> <p>Further, we suggest to replace "operating personnel" with "System Operator" - a defined term for operators at the RC, BA and TOP control centres to which this EOP standard applies.</p> <p>The proposed wording of 1.2.2 would thus read: Tools and applications that to ensure that the RC, BA and TOP have the capability to meet their respective functional obligations.</p> <p>(3) R1.2.5: This is not required since CIP-002-2 R1 already requires a Critical Asset Identification Method which includes in R1.2.1, the Control centers and backup control centers performing the functions of the entities listed in the Applicability section of that standard.</p> <p>(4) R1.2 seems to be a requirement to only have a descriptive list, i.e. - a document. If the measure of</p>

Organization	Yes or No	Question 6 Comment
		<p>compliance to R1.2 is the presence of a document, then the subsequent sub requirements, 1.2.1, 1.2.2, 1.2.3, 1.2.4 1.2.5 should be reorganized as a list and not distinct sub requirements since these are not individually measured for compliance to R1.2.</p> <p>(5) R1.6.2 requires during the 2 hour period for transition to the backup center, the Operating Process must include “Actions to manage the risk to the BES...”. It is unclear what “risk to the BES” must have actionable operations. If they include VSLs, IROLs and RSG requirements, all requiring action under the 2 hour period, then this may require a redundant parallel operation during the transition period since a neighboring BA, TOP, or RC may not have control to take “Action”. We do not believe that is the intent, however, it is unclear what capabilities are required to be compliant to R1.6.2 during the 2 hour transition to the backup facility.</p> <p>(6) R5 and R7: The word annually leaves room for interpretation. Where annual reviews or testing are required, annually can mean “an event that occurs yearly” which can result in two events occurring within a month of the New Year. To add clarity to meeting the intent of having reviews/testing done periodically within a 12 month time frame, we recommend that the drafting team replace annual test/review requirements with “test/review once each calendar year but in no event can the duration between test/review exceed 18 months”. This would allow entities to have flexibility within a calendar year to push back review/testing by 1-2 Quarters to address, for example, other business needs, but would not allow delays that result in reviews/testing more than 18 months apart.</p> <p>(7) R6: The way this requirement is worded can be ambiguous. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup capabilities that do not depend on each other for the functionality required to maintain...”The word capability may mean the capability of the responsibility or the capability of the functionality, and hence the “each other” could be interpreted as the responsible entity or the capability functionality. If this is meant to be the functionality, we suggest R6 be revised to provide clarity, such as: Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup capabilities that do not depend on each other to maintain...</p> <p>(8) R8: We suggest to replace the phrase “functionality is lost” with the loss of functionality is discovered” since the loss of functionality may not be known until it is checked periodically.</p>
<p>Response: 1. The SDT agrees that no single entity can ensure the reliability of the entire BES and has replaced that phrase with ‘continues to meet their functional obligations with regard to the reliable operation of the BES...’.</p> <p>R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:</p> <p>2. With the change made to Requirement R1 in response to your comment #1, any perceived problem with compliance should have been resolved. No change</p>		

Organization	Yes or No	Question 6 Comment
		<p>made.</p> <p>System Operator – The SDT assumes you meant Part 1.2.1 and if so, agrees with your comment on replacing ‘operating personnel’ with ‘System Operators’.</p> <p>Requirement R1, part 1.2, bullet #1 - Tools and applications to ensure that System Operators have situational awareness of the BES</p> <p>1.2.2. – Again the SDT assumes that you meant Part 1.2.1. The SDT believes that with the change made at your suggestion to Requirement R1 there is no reason to change the terminology here. No change made.</p> <p>3. The SDT believes that physical and cyber security are essential elements of the backup plan. The backup plan must contain how the backup functionality handles physical and cyber security. If an entity has documentation from the CIP standards that covers these issues, they should just reference it in the backup plan. No change made.</p> <p>4. The sub-parts under Part 1.2 are items that must be included in the plan and therefore should be numbered. No change made.</p> <p>5. The SDT believes that a portion of the BES can not be left without oversight during the transition period. Responsible entities should plan to contact their neighbors to provide oversight to the extent possible during the transition. No change made.</p> <p>6. The SDT disagrees with the change suggested. ‘Annual’ is used throughout the Reliability Standards and is well understood. No change made.</p> <p>7. The SDT agrees that “capabilities” should be changed to “functionality” as you have requested.</p> <p>R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.</p> <p>8. The SDT does not agree with the suggested change as it could significantly alter the amount of time before the plan is required. No change made.</p>
<p>MRO's NERC Standards Review Subcommittee</p>	<p>Yes</p>	<ol style="list-style-type: none"> 1. What is the significance of the two hours in R1.5? 2. Is it the intention to find the entity in violation if they can't get their back-up site fully functional within two hours for any reason? 3. We are concerned that the term “backup capabilities” has not been clearly defined or explained in the Standard. It is used in R6 and in R8. We feel that R6 should be changed to read: “Each RC, BA and TOP shall have primary and backup functionality, as defined in R4, that do not depend on each other.” We recommend that R8 should replace the word capability with functionality.
<p>Response: 1. In the judgment of the SDT, and as vetted through the various comment periods, two hours was selected as a reasonable time for establishing backup functionality. Two hours is the time between the loss of the primary functionality and full operation of the backup functionality.</p> <p>2. The 2 hours cited is a design criterion. Each situation is normally reviewed by the Regional Entity in light of the circumstances involved.</p> <p>3. The SDT agrees that “capabilities” should be changed to “functionality” as you have requested.</p>		

Organization	Yes or No	Question 6 Comment
<p>R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.</p> <p>R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.</p>		
<p>Kansas City Power & Light</p>	<p>Yes</p>	<ol style="list-style-type: none"> 1. R1.1.2: Data communications should not be a minimum required element. Some entities are small enough, manning stations as a substitute for telemetered data would be sufficient. This requirement imposes equipment and costs for smaller entities that is neither needed or justifiable. 2. R1.2.5 is duplicative and redundant to the CIP-002 standard which requires an entity to evaluate all of their assets which would include the backup control center/functionality and is not needed here. 3. R4 is requiring an EMS computer system in whole or in part to fulfill the “logging and alarming” part of this requirement. This standard should continue to addressing itself to requiring the establishment of monitoring and controlling the BES through any combination of tools, methods and procedures appropriate to the Registered Entity at a back-up facility. Recommend the wording should be changed to “Each Balancing Authority and Transmission Operator shall have a backup control center facility (provided through its own dedicated backup facility or at another entity’s control center staffed with certified Balancing Authority and Transmission Operator operators when control has been transferred to the backup facility) that provides the functionality required for fulfilling its functional obligations.” 4. R8 needs to be reworked to for Reliability Coordinators, Balancing Authorities, and Transmission Operators to coordinate with other operating entities and not the Regional Entity which is a compliance entity and not an operating entity.
<p>Response: 1. The SDT assumes that you meant Part 1.2.2. The requirement does not mandate how an entity provides the data communications. It simply asks an entity to explain how it will do the task. This would not preclude manning substations as long as it can be done within the timing requirements. No change made.</p> <p>2. The SDT believes that physical and cyber security are essential elements of the backup plan. The backup plan must contain how the backup functionality handles physical and cyber security. If an entity has documentation from the CIP standards that covers these issues, it should just reference it in the backup plan. No change made.</p> <p>3. Requirement R4 does not mandate an EMS. If an entity can supply the indicated functionality by other means, the wording of the requirement would allow that. No change made.</p> <p>4. The compliance entity is the right entity in this regard. Coordination is not the issue. Planning to recover from a catastrophe is the issue. No change made.</p>		

Organization	Yes or No	Question 6 Comment
Seattle City Light	Yes	<p>1. The term annual is used in requirement R5 and R7. This term need to be defined as there are many interpretations of this as it is defined in commom dictionaries. Does this mean every calendar year, every 365 days, 12 months, or 13 months (as supposedly used by WECC for CIP)? Entities should not have to rely on their definition matching that of an auditor. I would suggest a defintion of "every calendar year not to exceed 15 months between occurances".</p> <p>2. Requirement R1.3 discusses the process for maintaining functionality of backup facilities as being consistent with the primary facility. Does this imply they must have the exact same functionality? Or sufficient functionality for reliable BES operation?</p>
<p>Response: 1. The SDT disagrees with the change suggested. ‘Annual’ is used throughout the Reliability Standards and is well understood. No change made.</p> <p>2. The requirement does not say ‘exact’. An entity must have the functionality necessary to maintain compliance with all applicable Reliability Standards. No change made.</p>		
American Transmission Company	Yes	<p>ATC has raised the following concerns during previous commenting periods but they have not been adequately addressed by the drafting team. We believe that our concerns identify a major gap within the standard which must be addressed prior to balloting.</p> <p>ATC believes that the drafting team needs to drop the term “backup capabilities” used in requirements 6 and 8.</p> <p>Background information:</p> <p>Requirement 1.2 states that entities must have a summary description of the elements required to support the “backup functionality”. Requirements 1.2.1 through 1.2.5 identify the specific elements required to support “backup functionality”. Requirement 4 requires entities to “have “backup functionality” ... that includes monitoring, control, logging, and alarming sufficient for maintaining compliance with all Reliability Standards that depend on a BA’s and TOP’s primary control center functionality respectively.”</p> <p>Requirement 6: Requirement 6 introduces a new term “backup capabilities” which we believe is attempting to reference Requirement 4 (R4) but could also be used by an auditor to expand the functionality requirements identified in R4. The drafting team should replace the term “backup capabilities” with the term “backup functionality” in order to strengthen this requirement’s ties to Requirement 4.</p> <p>Suggested Modification: Each RC, BA and TOP shall have primary and backup functionality, as identified in R4, which are not dependent on each other.</p> <p>We believe that our suggested modification achieves the goal of the requirement but also limits the ability of an auditor to expand the requirement. If the drafting team disagrees with our modification then we believe that</p>

Organization	Yes or No	Question 6 Comment
		<p>they must specify which capabilities do not have to be dependent.</p> <p>Requirement 8: Similar to our concerns with proposed requirement 6 the drafting team uses the term “capabilities” but does not specify what it means. Suggested Modification: Each RC, BA and TOP that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality. We believe that our suggestion ties back appropriately to requirements 1.2 and 4, which identify what functionality has to be lost in order to trigger this requirement.</p>
<p>Response: The SDT agrees that “capabilities” should be changed to “functionality” as you have requested.</p> <p>R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.</p> <p>R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.</p>		
Black Hills Power	Yes	<p>Comments applicable to the overall Standard:</p> <p>The phrase “loss of control center functionality” is a fundamental and critical term which determines compliance to this Standard. However, there is no description or definition of how auditors or Functional Entities would determine if “loss of control center functionality” occurred. For example, would a “loss of control center functionality” occur if one or many non-redundant SCADA communications lines to critical substation(s) became non-functional? In order to prevent future compliance enforcement issues, we request specific clarity on these terms within the Standard itself or the Glossary of Terms.</p> <p>Comment specific to R2: R2 states . . . “shall have a copy of its current Operating Plan for backup functionality available at its primary control center and at the location providing backup functionality.” The term “shall have a copy” may imply a physical hard copy. We request modifying the language in the Standard to allow electronic access to the same Operating Plan. One proposal would be to change “shall have a copy of” to “shall have access to”.</p> <p>Comment specific to R5 part 5.1: R5 reads “An update and approval of the Operating Plan for backup functionality shall take place within sixty calendar days of any changes in capabilities described in Requirement R1. The phrase “any changes in capabilities described in Requirement R1” is extremely broad and would seem to cause non-compliance for minor, insignificant changes such as SCADA system applications or version changes. We offer the following alternative phrase to prevent such issues- “any</p>

Organization	Yes or No	Question 6 Comment
		<p>changes in capabilities which would impact the Operating Plan described in Requirement R1”.</p> <p>Comment specific to R8:Requirement R8 refer to a “loss of primary or backup capability” but there is no definition or description of what constitutes a loss of “capability” such as a single communication outage or perhaps a partial loss of capability due to an EMS software glitch that would exist at both primary and backup facilities. We request that the Standard clarify how the Functional Entity would determine or define a loss of “capability”.</p>
<p>Response: 1. The standard states that an entity must be in a position to maintain compliance with all applicable Reliability Standards. Failure to maintain this compliance should be the indicator of when action must be taken. Additionally, Requirement R1, part 1.6.3 includes a clause for identifying when the plan is implemented. No change made.</p> <p>2. The SDT refers the commenter to Measure M2 which clearly states that a hard copy or electronic copy is sufficient evidence. No change made.</p> <p>3. The SDT believes that the example cited is a situation that would impact the Operating Plan. The suggested wording change does not provide any additional clarity. Requirement R5, part 5.1 already says what the commenter is proposing. No change made.</p> <p>4. The standard states that an entity must be in a position to maintain compliance with all applicable Reliability Standards. Failure to maintain this compliance should be the indicator of when action must be taken. Additionally, Requirement R1, part 1.6.3 includes a clause for identifying when the plan is implemented. No change made.</p>		
SERC OC Standards Review Group	Yes	<p>In the context of R1, section 1.2, how much redundancy is required? Does every RTU require two completely independent communication circuits, one to the primary and one to the backup control center? We suggest that the drafting team draft language which is much more specific in defining the redundant requirement by only the control center and its associated and concentrated data paths, e.g., something like “the backup center shall not be dependent upon any capability contained within the primary control center”. We believe that silence on the issue of required levels of redundancy down to the detail level including RTUs or communication circuits will cause serious and unnecessary conflicts with the compliance function.</p> <p>The proposed revisions to R3 and R4 should have also included clarifying language to address the issue of whether or not tertiary facilities are required in the event of a planned outage of the primary or secondary facility in excess of two weeks. The SDT’s responses to previous comments on this issue are inadequate in that they are essentially providing an interpretation that is based upon the SDT’s own expectations and assumptions and which has no foundation in anything written in the proposed standard. We therefore suggest adding language similar to the SDT response to previous comments in these requirements. Our suggested wording would read “If a planned outage is expected to take more than the two weeks the affected entity shall develop an acceptable plan with their Regional Entity”.</p> <p>R5.1: We suggest adding the word “functional” in front of the word “Capabilities.</p>

Organization	Yes or No	Question 6 Comment
South Carolina Electric and Gas	Yes	<p>In the context of R1, section 1.2, how much redundancy is required? Does every RTU require two completely independent communication circuits, one to the primary and one to the backup control center? We suggest that the drafting team draft language which is much more specific in defining the redundant requirement by only the control center and its associated and concentrated data paths, e.g., something like “the backup center shall not be dependent upon any capability contained within the primary control center”. We believe that silence on the issue of required levels of redundancy down to the detail level including RTUs or communication circuits will cause serious and unnecessary conflicts with the compliance function.</p> <p>The proposed revisions to R3 and R4 should have also included clarifying language to address the issue of whether or not tertiary facilities are required in the event of a planned outage of the primary or secondary facility in excess of two weeks. The SDT’s responses to previous comments on this issue are inadequate in that they are essentially providing an interpretation that is based upon the SDT’s own expectations and assumptions and which has no foundation in anything written in the proposed standard. We therefore suggest adding language similar to the SDT response to previous comments in these requirements. Our suggested wording would read “If a planned outage is expected to take more than the two weeks the affected entity shall develop an acceptable plan with their Regional Entity”.</p> <p>R5.1: We suggest adding the word “functional” in front of the word “Capabilities”.</p>
<p>Response: R1 – Part 1.2 does not tell an entity how to accomplish anything. It is simply asking for a description of how it is done. Requirement R6 states that primary and backup functionality can not depend on each other for any aspect of operations required to maintain compliance with all applicable Reliability Standards. How an entity accomplishes that is up to them. No change made.</p> <p>R3 & R4 – The SDT felt that a timeframe was essential with respect to planned outages to the backup functionality otherwise an entity could have its backup functionality out of service under a planned condition indefinitely. This would create a major gap within the standard. The two week timeframe was considered a reasonable timeframe for planned outages by the SDT. No change made</p> <p>R5.1 – The SDT has changed ‘in capabilities’ to ‘to any part of the Operating Plan’ to accommodate your concern.</p> <p>Requirement R5, part 5.1 - An update and approval of the Operating Plan for backup functionality shall take place within sixty calendar days of any changes to any part of the Operating Plan described in Requirement R1.</p>		
NPCC Regional Standards Committee	Yes	<p>NPCC RSC participating members suggest that “ensure” should not be used in the Standard. The use of “ensure” implies a guarantee in words, rather than actions.</p>
<p>Response: The SDT agrees that no single entity can ensure the reliability of the entire BES and has replaced that phrase with ‘continues to meet their functional obligations with regard to the reliable operation of the BES...’.</p> <p>R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it</p>		

Organization	Yes or No	Question 6 Comment
<p>continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:</p>		
<p>Southern Company Transmission</p>	<p>Yes</p>	<ul style="list-style-type: none"> o R1.5 It is recommended that the timing associated with the transition period required in 1.5 be included into 1.6 as part of the Operating Process that is required there. Defining the existence of a "transition period" does nothing to improve reliability unless its tied to the actions of the Operating Process. Recommend R1.6 be changed to the following and R1.5 be eliminated (changes to SDT version shown in italics): "An Operating Process describing the actions (activities and expected time to completion) to be taken during a transition period of less than or equal to two hours between the loss of primary control center functionality and the time to fully implement backup functionality elements identified in Requirement R1 part 1.2....." o In R3 and R4, add the word "normally" as shown to the phrases "...for maintaining compliance with all Reliability Standards that normally depending on..." o Recommend for emphasis and logical flow of the EOP-008 Standard, that requirement R6 which established requirement for independence of primary and be made R1 and then perhaps follow that with R3 and R4 being made R2 and R3 respectively. o The term "capabilities" in R6 may be clarified and avoid future questions or interpretation requests if it references the elements identified in R1.2. For example: "...shall have primary and backup capabilities as described in R1.2 that do not depend on each other....." o In R7, what is the measurable expectation of "demonstrates" - actually performing all control, monitoring, alarming, data movement, voice communications, etc. exclusively from the backup facility for the whole two hour period of 7.2 or observing and recording the capability of the backup's functionality while maintaining master control and operations at the primary facility. From a compliance audit consistency perspective this needs to be clarified either in the standard or in the measure for R7
<p>Response: 1.5 – The SDT does not see that the suggested change adds any clarity to the standard. No change made.</p> <p>R3/4 – The SDT does not agree with the addition of 'normal' as it is undefined, does not add any clarity, and would add confusion to the situation. No change made.</p> <p>R6 order – The SDT believes that plan comes first and at this point in time is not entertaining changes to the order of the requirements. Changing the order does not change the need to comply. No change made.</p> <p>R6 – The suggested change appears to be redundant and unnecessary to the SDT as this requirement is part of the standard which must be taken as a whole. No change made.</p> <p>R7 – Part 7.2 requires a demonstration of the backup functionality. The SDT does not see any way to do this without actually performing an entity's tasks from</p>		

Organization	Yes or No	Question 6 Comment
the backup functionality so the existing wording is clear and sufficient. No change made.		
FirstEnergy	Yes	<p>Overall FE supports the Draft 5 version of the EOP-008-1 standard. Additionally, we offer the following suggestions:</p> <ol style="list-style-type: none"> 1. We believe the SDT should replace the phrase "backup capabilities" with "backup functionality" in Requirements R6 and R8. Since the title of this standard is "Loss of Control Center Functionality", and since other requirements in the standard use the phrase "backup functionality", the use of "functionality" should be consistent throughout the standard. 2. FE has not previously raised the question related to certified operators in R3 and R4. See our response to Question 3. We would appreciate the drafting team's perspective and consideration of our comment. <p>Regarding the "Regional Entity" mentioned in R8 and Sec. D1.1, we assume this to mean organizations such as FRCC, RFC, SERC, etc. Although a minor issue, we note that this capitalized term is not defined in the NERC Glossary or the latest version of the Function Model (Ver. 5). Additionally, there seems to be a move afoot in project 2010-08 "Functional Model Glossary Revisions" to deemphasize the Regional Entity since it was not contained within the SAR scope of that project. In reviewing the project 2010-08 scope, it seems implied to FE that the Compliance Enforcement Authority and the Reliability Assurer would be potential replacements for the term Regional Entity throughout the NERC reliability standards. We encourage this drafting team to better understand the vision of using the CEA and RA within the standards and consider their use over the RE as stated in R8.</p>
<p>Response: 1. The SDT agrees that “capabilities” should be changed to “functionality” as you have requested.</p> <p>R6. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have primary and backup functionality that do not depend on each other for the control center functionality required to maintain compliance with Reliability Standards.</p> <p>R8. Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish backup functionality.</p> <p>2. See the response to Q3.</p> <p>Regional Entity – The SDT is limited to the guidelines issued by the Standards Committee and NERC staff (in applicable documentation) and at this time, Regional Entity is the correct term. The SDT can’t guess as to what might happen in the future. If changes are needed to functional entity terminology in the future, they will be made when such changes are approved by the Board of Trustees and applicable regulatory authorities. No change made.</p>		
We Energies	Yes	R5.1 is overly broad in specifying “any changes in capabilities described in R1” and overly aggressive in terms of the 60 day requirement to update and approve the operating plan. Recommend an annual requirement to

Organization	Yes or No	Question 6 Comment
		review, update and approve the plan, and eliminating the verbiage "any changes in capabilities described in R1."
<p>Response: The SDT believes that annual is too long a time period for such an important document and 60 days is a reasonable timeframe. No change made.</p>		
Bonneville Power Administration	Yes	Suggest some revisions to R5/R1 linkage regarding changes in capabilities. (a voice circuit path change transparent to the System operator is not a capability change. i.e. - A Control Center site change or Physical access would be considered a capability change).
<p>Response: The SDT feels that any change that does not impact the functionality does not need to be reported and that the current wording supports this position. No change made.</p>		
Electric Market Policy	Yes	The proposed revisions to R3 and R4 should have also included clarifying language to address the issue of whether or not tertiary facilities are required in the event of a planned outage of the primary or secondary facility in excess of two weeks. The SDT's responses to previous comments on this issue are inadequate in that they are essentially providing an interpretation that is based upon the SDT's own expectations and assumptions and which has no foundation in anything written in the proposed standard. We therefore suggest adding language similar to the SDT response to previous comments in these requirements. Our suggested wording would read "If a planned outage is expected to take more than the two weeks the affected entity shall develop an acceptable plan with their Regional Entity.
<p>Response: The SDT felt that a timeframe was essential with respect to planned outages to the backup functionality otherwise an entity could have its backup functionality out of service under a planned condition indefinitely. This would create a major gap within the standard. The two week timeframe was considered a reasonable timeframe for planned outages by the SDT. No change made</p>		
Midwest ISO Standards Collaborators	Yes	<p>We have identified a few issues that still remain in the standard.</p> <p>(1) In R1, the requirement applies to "Each RC, BA, and TOP and requires each to ensure "reliable operations of the BES". No single entity can ensure the reliability of the BES. Rather these entities ensure the reliability of the BES working together fulfilling their functional obligations. We suggest "ensures reliable operations of the BES" be changed to" "continues to meet their functional obligations".</p> <p>(2) R1, Part 1.2.5 is redundant to the CIP standards because CIP-002 requires an entity to evaluate all of their assets which would include the backup control center/functionality.</p> <p>(3) R1, Part 1.2.1 implies the BA has situational awareness of the BES. Per the functional model, the BA does not see most of the BES except tie line flows, generator outputs and load. This should reflect that the purpose</p>

Organization	Yes or No	Question 6 Comment
		<p>is for the entities to fulfill their functional obligations.</p> <p>(4) The wording “location providing backup functionality” in R2 could be construed to create a de facto requirement to have a backup control center.</p> <p>(5) The wording of R3 should be improved. It essentially makes this requirement dependent on every other RC requirement in every other standard. We suggest the wording should be changed to “Each Reliability Coordinator shall have a backup control center facility (provided through its own dedicated backup facility or at another entity’s control center staffed with certified Reliability Coordinator operators when control has been transferred to the backup facility) that provides the functionality required for fulfilling its functional obligations.”</p> <p>(6) The first and fifth bullets under Data Retention create an obligation to retain data for longer than the 3-year audit cycle (“current year and three previous years”). At the end of the current year, four years of data would have to be maintained. We suggest making this a simple sliding three year requirement.</p>
<p>Response: 1. The SDT agrees that no single entity can ensure the reliability of the entire BES and has replaced that phrase with ‘continues to meet their functional obligations with regard to the reliable operation of the BES...’.</p> <p>R1. Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:</p> <p>2. The SDT believes that physical and cyber security are essential elements of the backup plan. The backup plan must contain how the backup functionality handles physical and cyber security. If an entity has documentation from the CIP standards that covers these issues, they should just reference it in the backup plan. No change made.</p> <p>3. With the change made to Requirement R1 in response to your comment #1, any perceived problem with compliance should have been resolved. No change made.</p> <p>4. The SDT does not agree with your interpretation. As described in the requirements, such a location could be through contracted services and not at an owned site. No change made.</p> <p>5. The SDT agrees with your interpretation and that is exactly what was meant. No change made.</p> <p>6. The SDT has changed the language for bullets 1 & 5 to simply retain data since the last compliance audit.</p> <p>Data Retention bullet #1 – Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall retain their dated, current, in force Operating Plan for backup functionality for the time period since its last compliance audit in accordance with Measurement M1.</p> <p>Data Retention bullet #5 - Each Reliability Coordinator, Balancing Authority, and Transmission Operator, shall retain evidence for the time period since its last compliance audit, that its dated, current, in force Operating Plan for backup functionality, has been reviewed and approved annually and that it has been updated within sixty calendar days of any changes to the capabilities described in Requirement R1 in accordance with Measurement M5.</p>		

Organization	Yes or No	Question 6 Comment
Upper Peninsula Power Company and Wisconsin Public Service Corp	Yes	<p>With regards to R7, additional verbiage is required to describe an acceptable functionality test. Does a functionality test require the entity to control BES assets from the backup control center or can operators monitor the BES from the backup control center while the primary control center continues to control and monitor the BES. If the functionality test requires the entity to control from the backup control center; is there a level or percentage of control required? Wisconsin Public Service Corp suggests that monitoring the BES in parallel with the primary control center provides adequate demonstration of functionality. Failure to define an adequate functional test will result in the request for interpretations, inconsistent enforcement, and rule making through enforcement.</p> <p>Wisconsin Public Service Corp also request the standard committee explain the safety and reliability significance to the BES of the 2 hour time limit provided in R 1.5 and how lengthening this time period would have a discernable adverse affect on the reliability or safety of the BES.</p> <p>Furthermore; please clarify, would an entity be in violation if they can't get their back-up site fully functional within two hours for any reason? For example, R6 states "primary and backup capabilities that do not depend on each other for the functionality required to maintain compliance with Reliability Standards." To meet this statement, the entity must design a primary and backup control centers that are separated and redundant enough to survive an assumed initiating event. The level of damage should be specified by the drafting teaming, or lacking guidance by the drafting team by the entity itself. If the actual event is more severe than the assumed event and the backup control center is not up and running in two hours, is this a violation of the standard? To assure a consistent and non-capricious enforcement of the standard, these areas need to be further clarified by the drafting team.</p>
<p>Response: R7 – Part 7.2 requires a demonstration of the backup functionality. The SDT does not see any way to do this without actually performing an entity's tasks from the backup functionality so the existing wording is clear and sufficient. No change made.</p> <p>2 hours – One can never come up with a hard and fast number applicable to all entities that would guarantee the safety and reliability of the BES at all times. This time frame was debated throughout the life of the project through the comment periods. Input from industry commenters was discussed and evaluated by the SDT and the 2 hour timeframe seemed to be the appropriate number to satiiisfy industry concerns. No change made.</p> <p>Violation – The 2 hours cited is a design criterion. Each situation is normally reviewed by the Regional Entity in light of the circumstances involved.</p>		
Xcel Energy		none
Consolidated Edison Co. of New York	No	
ERCOT ISO	No	

Consideration of Comments on 4th draft of Back-up Facilities Standards — Project 2006-04

Organization	Yes or No	Question 6 Comment
Georgia System Operations Corporation	No	
Independent Electricity System Operator	No	
Northeast Utilities	No	
NPCC	No	
Oncor Electric Delivery LLC	No	
PacifiCorp	No	
Pepco Holdings, Inc.	No	
The Empire District Electric Company	No	
US Bureau of Reclamation	No	
Manitoba Hydro	No	As answered in individual questions.
PPL Electric Utilities	No	The changes are appropriate clarifications.
Response: Thank you for your response.		