

**Backup Facilities SAR Drafting Team
 Conference Call Notes**

April 10, 2007

1. Administrative Items

a. Introductions and Quorum

Sam Brattini, Chair of BFSDT, brought the call to order at 1300. Participants were:

Tom Bowe	Sam Brattini, Chair	Kevin Conway
Charles Jenkins	Glenn Kaht	James Larsen
Keith Porterfield	Michael Schiavone, Vice Chair	Melinda Montgomery, Observer
Ed Dobrowolski, NERC		

Quorum was achieved.

b. NERC Antitrust Compliance Guidelines — Ed Dobrowolski

There were no questions raised concerning the NERC Antitrust Compliance Guidelines.

c. Review Meeting Agenda & Objectives — Sam Brattini

The main purpose for this call was to finalize the SAR comment responses and prepare the SAR for submittal to the Standards Committee (SC).

2. Review and Finalize SAR Comment Responses

Each of the three question responses were assigned to a single volunteer, who then shared their work with the team via e-mail. The three main responders led the team through the answers and changes were made as requested by the team and reviewed via WebEx. The final comment response form is included with these notes as **Attachment A**.

- a. Question #1 – Charles Jenkins**
- b. Question #2 – Allen Phelps (Allen was unable to participate in the call so the team reviewed the response.)**
- c. Question #3 – Sam Brattini**

3. Finalize SAR — Sam Brattini

- a. There were no required changes to the SAR based on the comment responses. However, the SAR was updated to reflect the recent issuance of FERC Order 693. The revised SAR is included with these notes as **Attachment B** (red-line) and **Attachment C** (clean).
- b. The team decided that there was no need to repost the SAR and that it was now ready to submit to the SC for approval.

4. Discuss Next Steps

- a. Transition to SDT – Ed Dobrowolski

The team was polled as to their desire to continue on as part of the SDT. All of the call participants expressed their feeling to continue on with the work effort.

Keith Porterfield joined the team primarily due to the original inclusion of COM-001 in the SAR. Since it has been removed from this project, he will need to check with his management as to their willingness to allow him to continue.

Team members who did not participate in the call were polled subsequent to the call via e-mail as to their desire to continue:

- o Sam Holeman –
- o Allen Phelps – Yes
- o James Vermilion –

- b. Work Plan – Sam Brattini

Charles Jenkins informed the team that there have been discussions at the Operating Committee (OC) concerning the possibility of rolling the OC BUCC Project into this SAR/Standards effort. The team agreed that this would be an excellent idea and assigned Ed Dobrowolski to pursue this with Don Benjamin.

AI – Ed Dobrowolski will contact Don Benjamin about the possibility of rolling the OC BUCC effort into the BFSDT.

Since the BFSDT technically needs to wait for SC approval to continue, and due to the uncertainty about possible new members from the OC BUCC rolling into BFSDT, the team decided not to move forward with standards drafting work at this time.

5. Review Action Items & Project Schedule — Ed Dobrowolski

The following action item was developed during this call:

- o Ed Dobrowolski will contact Don Benjamin about the possibility of rolling the OC BUCC effort into the BFSDT.

The estimated schedule set up during the development of the Reliability Standards Development Work Plan 2007 – 2009 is still well within range. Once the SDT is approved, a detailed schedule should be developed to direct that work effort.

6. Schedule Next Meetings — Sam Brattini

Although the team is going to wait for SC and OC action to actually begin work, it was decided to get one meeting on the calendar. The team will tentatively meet on Thursday, June 21 from 0800 to 1700 and Friday, June 22 from 0800 to noon in Syracuse, NY at the facilities of Niagara Mohawk. Mike Schiavone will finalize the meeting location. The meeting will be locked in once the SC and OC actions are known.

7. Adjourn

Sam Brattini, Chair, adjourned the call at 1515.

Consideration of Comments on 2nd Posting of Backup Facilities SAR

The Backup Facilities SAR requesters thank all commenters who submitted comments on Draft 2 of the Backup Facilities SAR. This SAR was posted for a 30-day public comment period from February 8 through March 9, 2007. The requesters asked stakeholders to provide feedback on the standard through a special standard Comment Form. There were 7 sets of comments, including comments from 48 different people from 44 companies and organizations representing 8 of the 10 Industry Segments as shown in the table on the following pages.

Based on the comments received, the drafting team is recommending that the SC approve the SAR and move this project on to the standards drafting stage.

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

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

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the 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

No changes were made to the SAR as a result of the comments received. While there were some comments received concerning the inclusion of specific applicable entities in the SAR, the SAR DT has responded to those comments. However, there is a minority opinion within the SAR DT concerning the applicability of the SAR and eventual standard to the TO. The original problem that led the SAR DT to include the TO as an applicable entity was the case where the TOP delegates tasks to the TO and yet the TO is not bound by the applicable standard at this time. The SAR DT sees this as a larger problem that needs to be addressed in the respective Delegation Agreements, NERC Functional Model and/or the NERC entity registration process.

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

Consideration of Comments on 2nd Posting of Backup Facilities SAR

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.	Wayne Lewis	Progress Energy	✓		✓		✓	✓						
2.	Melinda Montgomery	Entergy Services, Inc.	✓											
3.	Greg Lange	Grant County PUD			✓									
4.	Roger Champagne	Hydro-Québec TransÉnergie	✓											
5.	Kathleen Goodman	ISO New England		✓										
6.	Brian Thumm	ITC Transmission	✓											
7.	Ralph Rufrano (G1)	NYPA	✓											
8.	Herb Schrayshuen (G1)	NGrid	✓											
9.	Murale Gopinathan (G1)	NU	✓											
10.	Jerad Barnhart (G1)	NStar	✓											
11.	Roger Champagne (G1)	TransÉnergie Hydro-Québec	✓											
12.	Kathleen Goodman (G1)	ISO New England		✓										
13.	Bill Shemley (G1)	ISO New England		✓										
14.	Ron Falsetti (I)	IESO		✓										
15.	Randy MdDonald (G1)	NBSO		✓										
16.	Al Adamson (G1)	NYSRC		✓										
17.	Greg Campoli (G1)	NYISO		✓										
18.	Guy Zito (G1)	NPCC												✓
19.	Don Nelson (G1)	MA Dept. of Tele. And Energy											✓	
20.	James H. Sorrels, Jr	AEP	✓					✓	✓					
21.	Jason Shaver	ATC	✓											
22.	Steven Myers	ERCOT		✓										
23.	Michael Gammon	KCP&L	✓											
24.	Robert Coish	Manitoba Hydro	✓					✓	✓					
25.	Jason Marshall (G2)	MISO		✓										
26.	Jim Cyrulewski (G2)	JDRJC Associations										✓		
27.	Carol Gerou (G3)	MRO												✓
28.	Neal Balu (G3)	WPSR												✓

Consideration of Comments on 2nd Posting of Backup Facilities SAR

	Commenter	Organization	Industry Segment										
			1	2	3	4	5	6	7	8	9	10	
29.	Terry Bilke (G3)	MISO											✓
30.	Al Boesch (G3)	NPPD											✓
31.	Larry Brusseau (G3)	MRO											✓
32.	Robert Coish, Chair (G3)	MHEB											✓
33.	Ken Goldsmith (G3)	ALT											✓
34.	Todd Gosnell (G3)	OPPD											✓
35.	Jim Haigh (G3)	WAPA											✓
36.	Pam Oreschnik (G3)	XCEL											✓
37.	Dick Pursley (G3)	GRE											✓
38.	Dave Rudolph (G3)	BEPC											✓
39.	Rick Liljegren (G3)	MP											✓
40.	Michael Brytowski, Secretary (G3)	MRO											✓
41.	27 Additional MRO Members (G3)	Not Named Above											✓
42.	Charles Yeung (G4)	SRC		✓									
43.	Alicia Daugherty (G4)	PJM		✓									
44.	Mike Calimano (G4)	NYISO		✓									
45.	Ron Falsetti (G4)	IESO		✓									
46.	Matt Goldberg (G4)	ISO-NE		✓									
47.	Brent Kingsford (G4)	CAISO		✓									
48.	Anita Lee (G4)	AESO		✓									
49.	Steve Myers (G4)	ERCOT		✓									
50.	Bill Phillips (G4)	MISO		✓									
51.	Jack Kerr	Dominion Virginia Power	✓										
52.	Michael Calimano	NYISO		✓									
53.	Ron Falsetti	IESO		✓									
54.	George Carruba	East Kentucky Power Cooperative	✓										

- I – Indicates that individual comments were submitted in addition to comments submitted as part of a group
- G1 – NPCC CP9 Reliability Standards Working Group (NPCC CP9)
- G2 – MRO and JDRJC Associates
- G3 – MRO Members
- G4 – Standards Review Committee

Index to Questions, Comments, and Responses

1. The revised SAR shows the Transmission Owner as an applicable entity based on the concept that there are Transmission Owners that operate control centers that could potentially have impact on the reliability of the Bulk Power System. Do you agree that the standard drafting team needs to have the flexibility to address the issue of Transmission Owners as applicable entities in the drafting of the standard..... 5
2. The SAR drafting team has deleted COM-001 from the revised SAR based on the fact that COM-001 deals with generic communication issues and not backup facility issues. Communication support explicitly needed for backup facilities will be considered in the revision of EOP-008. Also, COM-001 is covered in other areas of the Reliability Standards Development Plan 2007–2009. On this basis, do you agree that COM-001 should be deleted from the scope of this SAR? 8
3. Please highlight any other changes you feel are needed before this SAR is ready to move forward to standard drafting.10

Consideration of Comments on 2nd Posting of Backup Facilities SAR

1. The revised SAR shows the Transmission Owner as an applicable entity based on the concept that there are Transmission Owners that operate control centers that could potentially have impact on the reliability of the Bulk Power System. Do you agree that the standard drafting team needs to have the flexibility to address the issue of Transmission Owners as applicable entities in the drafting of the standard

Summary Consideration: The only negative comments received to this question were as to the inclusion of the TO as an applicable entity. The SAR DT believes that this needs to be left to the auspices of the eventual SDT to allow them the maximum flexibility to do their job correctly. If the TO is included by the SDT, the industry will receive their opportunity to express their opinion during the standards drafting and balloting processes. The SAR DT believes that we have responded to all of the comments.

Question #1			
Commenter	Yes	No	Comment
NPCC CP9		<input checked="" type="checkbox"/>	Although NPCC participating members see value, from a reliability perspective, to have “large” TOs with control centers, to have back-up facilities, there is trepidation with the idea of mandating this through a NERC standard. It is more appropriate to leave the details of what TO backup facilities are necessary in the individual TOP/TO operating agreements.
Hydro-Québec TransÉnergie		<input checked="" type="checkbox"/>	Although HQT see value, from a reliability perspective, to have “large” TOs with control centers, to have back-up facilities, it seems more appropriate to leave the details of what TO backup facilities are necessary in the individual TOP/TO operating agreements when a task is delegated. If a TO perform tasks that might impact the BPS, maybe they should register as a TOP.
IESO		<input checked="" type="checkbox"/>	Even though we see value, from a reliability perspective, to have “large” TOs with control centers, to have back-up facilities, we are not comfortable with the idea of mandating this through a NERC standard. We strongly feel that the details of what TO backup facilities are necessary, should be dealt between the TOP and TO in their respective operating agreements.
ISO-NE		<input checked="" type="checkbox"/>	Per the NERC Functional Model, the Transmission Operator operates the control centers.
Grant County PUD		<input checked="" type="checkbox"/>	If a transmission owner operates a control center, they are a transmission operator. Therefore, the SAR doesn't need to address transmission owners. They just need to properly register their entity.
ITC Transmission		<input checked="" type="checkbox"/>	If a Transmission Owner operates a control center, then they are a Transmission Operator. They should register as such.
Entergy		<input checked="" type="checkbox"/>	It is clear that the standard would apply to the Transmission Operator. It is considerably less clear when it would apply to a transmission owner that is not also a transmission

Consideration of Comments on 2nd Posting of Backup Facilities SAR

Question #1			
Commenter	Yes	No	Comment
			operator. I am not aware of a case where the Transmission Owner is operating a control center and performing functions that have impact on the reliability of the Bulk Power System, but such a situation could exist. In that situation, the transmission owner might be considered to be delegated such tasks by the transmission operator or some other functional entity. My concern is that there may be some shades of gray, where it is not clear whether or not a transmission owner is required to comply with the standard.
MISO (G2)		<input checked="" type="checkbox"/>	If Transmission Owner is operating a control center, this would make them a transmission operator and they should register as one.
SRC (G4)		<input checked="" type="checkbox"/>	Per the NERC Functional Model, the Transmission Operator operates the control centers.
East Kentucky Power Cooperative		<input checked="" type="checkbox"/>	TOs performing TOP functions should register as TOPs and would then be appropriately covered by this standard.
NYISO		<input checked="" type="checkbox"/>	Per the NERC Functional Model, the Transmission Operator operates the control centers and should have sole responsibility for BPS Operation. The TOP has responsibility to ensure others who are supporting their control center, such as a TO, can do so as defined in agreements or reliability plans. A transmission owner with a control center that takes independent action on the BPS should be register as a TOP.
Manitoba Hydro	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	If the Transmission Owner operates a control centre then it should be registered as a Transmission Operator and meet the back up facility requirements.
ERCOT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	If the Transmission Owner is performing tasks in accordance with a delegation agreement between the Transmission Owner and the Transmission Operator, the Transmission Operator is still responsible for meeting the requirements of the function. The delegation agreement should cover and include the relevant requirements for backup functionality of the Transmission Owner. I believe the NERC standard should show applicability to the Transmission Operator.
Dominion Virginia Power	<input checked="" type="checkbox"/>		TOs (or other entities) to whom reliability tasks have been delegated should be required to have the backup facilities necessary to provide backup capabilities for those delegated tasks. Also, consideration should be given to expanding the scope to include "shared" tasks that some TOs (or other entities) are required to perform by their TOP or RC as part of a "defense in depth" strategy for monitoring and reliability analysis (for example, state estimation and contingency analysis performed by a TO at a local level to complement the "wide area" state estimation and contingency analysis performed by the RC). Also, an argument could be made that TOs (or other entities) who perform delegated or shared reliability tasks but that do not have backup facilities can be a burden on their neighbors upon loss of the capability to perform these tasks. This is because overall reliability suffers (risk goes up) when these delegated or shared tasks

Consideration of Comments on 2nd Posting of Backup Facilities SAR

Question #1			
Commenter	Yes	No	Comment
			are not being performed. This is especially true for TOs who supply real-time reliability data to their RC and other TOs or TOPs when loss of primary facilities causes large amounts of data to cease to be available to the data recipients. Such a loss of data exchange capability is a common cause of state estimator solution problems for data recipients.
<p>Response: The SAR DT considered the comments above, and concluded that the SDT should have the flexibility to consider Transmission Owners, under certain circumstances where a TO operates a control facility, as applicable entities for this standard. The comments suggest other alternatives that the SDT may also choose to consider in drafting the standard. Some of the comments suggest that if all Transmission Owners that operate control centers register as Transmission Operators then the suggested flexibility would not be necessary. The SAR DT agrees with that, but also recognizes that in the current situation the underpinning assumption that all entities operating control centers are registered that way isn't factual. Other comments suggest that this requirement can be adequately covered in delegation agreements between the Transmission Owner and Transmission Operator. The SAR DT recognizes that that may be an adequate approach, but believes the SDT should have the ability to consider whether that is an adequate approach or whether the importance of having backup capabilities warrants having an applicable standard apply directly rather than indirectly through delegation agreements. If the SDT leaves the TO and/or TOP in the standard as applicable entities, the industry will receive their opportunity to express their opinion during the standards drafting and balloting processes.</p>			
MRO (G3)	<input checked="" type="checkbox"/>		These facilities are critical to the reliable operation of the Bulk Power system therefore flexibility to include a transmission owner as an applicable entity is reasonable.
Progress Energy	<input checked="" type="checkbox"/>		
AEP	<input checked="" type="checkbox"/>		
ATC	<input checked="" type="checkbox"/>		
KCP&L	<input checked="" type="checkbox"/>		

Consideration of Comments on 2nd Posting of Backup Facilities SAR

2. The SAR drafting team has deleted COM-001 from the revised SAR based on the fact that COM-001 deals with generic communication issues and not backup facility issues. Communication support explicitly needed for backup facilities will be considered in the revision of EOP-008. Also, COM-001 is covered in other areas of the Reliability Standards Development Plan 2007–2009. On this basis, do you agree that COM-001 should be deleted from the scope of this SAR?

Summary Consideration: There were no negative comments received for this question.

Question #2			
Commenter	Yes	No	Comment
MISO (G2)	<input checked="" type="checkbox"/>		Since this SAR is dealing directly with backup capabilities, removing consideration of COM-001 makes sense. However, this causes a fundamental question. Should the standards defining primary control center capabilities include the back up capabilities as well? If so, a supplemental SAR will be required and then COM-001 would need to be considered.
Response: The SAR DT considered how the backup facility requirements would be most clearly defined and came to the conclusion that a standalone document would be best and from the recent FERC issuance of Order 693, it appears that FERC concurs. Therefore, the SAR DT does not see the need for a supplemental SAR.			
Grant County PUD	<input checked="" type="checkbox"/>		EOP-008 only discusses loss of primary control facilities. No need to look at standards dealing with normal operations.
ITC Transmission	<input checked="" type="checkbox"/>		
Entergy	<input checked="" type="checkbox"/>		
Progress Energy	<input checked="" type="checkbox"/>		
AEP	<input checked="" type="checkbox"/>		
ATC	<input checked="" type="checkbox"/>		
ERCOT	<input checked="" type="checkbox"/>		
KCP&L	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		
NPCC CP9	<input checked="" type="checkbox"/>		
Hydro-Québec TransÉnergie	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
ISO-NE	<input checked="" type="checkbox"/>		

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Question #2			
Commenter	Yes	No	Comment
MRO (G3)	<input checked="" type="checkbox"/>		
SRC (G4)	<input checked="" type="checkbox"/>		
Dominion Virginia Power	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
East Kentucky Power Cooperative	<input checked="" type="checkbox"/>		

Consideration of Comments on 2nd Posting of Backup Facilities SAR

3. Please highlight any other changes you feel are needed before this SAR is ready to move forward to standard drafting.

Summary Consideration: The only comments requiring a response for this question refer to matters beyond the scope of the SAR DT or that have been responded to in this document.

Question #3			
Commenter	Yes	No	Comment
ISO-NE			There are other SARs that have been posted recently that includes reviews and potential changes to standards this SAR will impact. ISO New England believes that the Standards Committee should work to resolve multiple SARs covering the same standards to prevent confusion and potential loss of changes. It is important that these SARs are sequenced properly to ensure that there are not any lost changes.
MISO (G2)			There are other SARs that have been posted recently that includes reviews and potential changes to standards this SAR will impact. For example, the Reliability Coordination (Project 2006-06) SAR will include modifications to IRO-002. This SAR should address how these changes will be coordinated with the Reliability Coordination SAR, other existing SARs and any other SAR that is expected to be proposed from the NERC Reliability Standards Work Plan.
NYISO			There are other SARs that have been posted recently that includes reviews and potential changes to standards this SAR will impact. The IRC believes that the Standards Committee should work to resolve multiple SARs covering the same standards to prevent confusion and potential loss of changes. It is important that these SARs are sequenced properly to ensure that there are not any lost changes.
SRC (G4)			There are other SARs that have been posted recently that includes reviews and potential changes to standards this SAR will impact. The IRC believes that the Standards Committee should work to resolve multiple SARs covering the same standards to prevent confusion and potential loss of changes. It is important that these SARs are sequenced properly to ensure that there are not any lost changes.
Response: This issue is beyond the scope of the SAR DT. It is up to the SC and NERC staff to coordinate these types of issues.			
Grant County PUD			Please change the name of the SAR from Backup Facilities to Loss of Primary Control Facilities. Revision of EOP-008 should not specify requirement for a backup control center. There are several other viable ways to maintain or resume control with a loss of primary facilities. Even if the drafters intent is correct, the title is confusing. If it is the intent of the drafters/sponsor to create a requirement for the existance of backup control centers, then a new SAR should be written that is not listed as a revision of an existing standard.

Consideration of Comments on 2nd Posting of Backup Facilities SAR

Question #3			
Commenter	Yes	No	Comment
<p>Response: The name of the present standard is "Plan for Loss of Control Center Functionality". While the SAR DT agrees with this position, it is not within the scope of the SAR DT to change the name of a SAR once it has been submitted. The actual name given to the revised standard will be addressed by the SDT.</p>			
AEP			There should be a provision for the ability to demonstrate backup functionality if arranged/contracted with another reliability entity, as long as that entity can demonstrate their backup capability to meet the requirements and measures.
<p>Response: This issue is beyond the scope of the SAR DT. Your comment will be passed along to the SDT.</p>			
ATC			ATC does not support the proposed exclusion for Transmission Operators. The exclusion allows an exempt Transmission Operator to determine post event how they should continue to monitor their transmission system. The result would be an unmonitored transmission system for possibly days or months.
<p>Response: The SAR DT made this exclusion so that very small operators who would not have an impact on the Bulk Power System would not be an applicable entity. The SDT will make the final determination on this matter.</p>			
ERCOT			The SAR should clearly show that the backup requirements apply to the functionality rather than specifying how to do it. In other words, say they must be able to do "what" and not that they must have a backup facility (which is a "how"). This is not to say that I do not believe that backup facilities are important. They are important, and I believe it is prudent for the responsible entities to have them. However, the reliability requirement is that the responsible entity be able to perform under need.
<p>Response: Please see the last sentence of the second paragraph of the Brief Description section of the SAR where this is specifically addressed.</p>			
MRO (G3)			<ol style="list-style-type: none"> 1. Remove mitigation time horizons from the SAR because they are not defined and they are not part of the Standards Development Procedure. 2. Need to specific which standards are included in this SAR to be modified other than standard IRO-002.
<p>Response:</p> <ol style="list-style-type: none"> 1. The mitigation time horizon is a parameter of the reliability standard review guidelines that will be considered by the SDT. 2. The SAR DT has looked at the overall set of standards and feels that only IRO-002, R8 may have relevance to EOP-008. 			
NPCC CP9			None.
Hydro-Québec TransÉnergie			None.
IESO			None.
KCP&L			None.
Manitoba Hydro			None.
ITC Transmission			None.

Consideration of Comments on 2nd Posting of Backup Facilities SAR

Question #3			
Commenter	Yes	No	Comment
Entergy			None.
Progress Energy			None.
Dominion Virginia Power			None.
East Kentucky Power Cooperative			None.

Standard Authorization Request Form

Title of Proposed Standard	Back-up Facilities Project 2006-04
Request Date	<u>April 11, 2007</u>

Deleted: October 26, 2006

SAR Requestor Information	SAR Type	(Check a box for each one that applies.)
Name Sam Brattini	<input type="checkbox"/>	New Standard
Primary Contact Sam Brattini	<input checked="" type="checkbox"/>	Revision to existing Standard
Telephone 215-997-4500 x270 Fax 215-997-3818	<input type="checkbox"/>	Withdrawal of existing Standard
E-mail sam.brattini@us.kema.com	<input type="checkbox"/>	Urgent Action

Purpose

Applicable Standards: EOP-008: Plans for Loss of Control Center Functionality

The purpose of revising these standards is to:

1. Provide an adequate level of reliability for the North American bulk power systems — the standards are complete and the requirements are set at an appropriate level to ensure reliability.
2. Ensure they are enforceable as mandatory reliability standards with financial penalties — the applicability to bulk power system owners, operators, and users, and as appropriate particular classes of facilities, is clearly defined; the purpose, requirements, and measures are results-focused and unambiguous; the consequences of violating the requirements are clear.
3. Consider other general improvements as described in Appendix A.
4. Consider stakeholder comments received during the initial development of the standards and other comments received from ERO regulatory authorities as noted in the attached review sheets.
5. Satisfy the standards procedure requirement for five-year review of the standards.

Industry Need

As the electric reliability organization begins enforcing compliance with reliability standards under Section 215 of the Federal Power Act in the United States and applicable statutes and regulations in Canada, the industry needs a set of clear, measurable, and enforceable reliability standards. The Version 0 standards, while a good foundation, were translated from historical operating and planning policies and guides that were appropriate in an era of voluntary compliance. The Version 0 standards, and recent updates were put in place as a temporary starting point to start up the electric reliability organization and begin enforcement of mandatory standards. However, it is important to update the standards in a timely manner, incorporating improvements to make the standards more suitable for enforcement and to capture prior recommendations that were deferred during the Version 0 and translations. The standard in this project is a Version 0 standard.

Deleted: and the translation of Phase III & IV planning measures

Deleted: , Phase III & IV standards,

Deleted: Phase III & IV

Detailed Description

The requirements in EOP-008 need additional specificity. The development revision to EOP-008 may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards. In addition, the efforts of the OC Backup Control Center Task Force will be used as one of the inputs to the revision of EOP-008. Also, there may be backup facility requirements in some other standards, and those requirements should be considered for movement into this standard.

The definition of backup capability that is pertinent to this effort is: the ability to maintain situational awareness and continue to comply with reliability standards when primary control center facilities are not operational. The objective of EOP-008 should be to emphasize the continuation of functionality needed for reliable system operation regardless of the manner in which it is achieved.

Additionally, consideration for communications required to explicitly support backup facilities will be included in the scope of this revision as applicable.

The reliability requirements for EOP-008 are such that simply checking the box in the Reliability Functions table for applicable functional model entities may not be appropriate. In some cases it may impose obligations on entities that are not truly warranted from a Bulk Power System reliability perspective (such as a small Transmission Operator that is only operating a radial transmission system), and at the other end it may not capture entities that are using control centers to perform critical Bulk Power System reliability tasks under delegation agreements.

The basic intent is to apply this standard to any entity for which the loss of its primary control capability would impose a significant real-time reliability risk to the Bulk Power System. In concept this would include:

- All Reliability Coordinators,
 - All Balancing Authorities,
 - All Transmission Operators, except those for which it is determined that loss of primary control capability would not impose a significant real-time reliability risk on the Bulk Power System
- Any entity performing reliability functions as a result of delegation of tasks from any Reliability Coordinator, Balancing Authority or Transmission Operator. An example of this situation would be a transmission control center operated by an entity that is registered as a Transmission Owner but not registered as a Transmission Operator. In order to afford the standard drafting team sufficient scope coverage to consider this delegation question, Transmission Owner is also checked as being a reliability function to which the standard will apply.

Note that Appendix B is an informative attachment that contains material for consideration in the standards revision process. It should not be considered to contain mandatory changes to the standard.

Comments from FERC Order 693 contained in Appendix B will be addressed by the SDT.

Reliability Functions

The Standard will Apply to the Following Functions <i>(Check box for each one that applies.)</i>		
X	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
X	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input type="checkbox"/>	Interchange Coordinator	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input type="checkbox"/>	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/>	Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
<input type="checkbox"/>	Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
<input type="checkbox"/>	Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
X	Transmission Owner	Owns and maintains transmission facilities.
X	Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/>	Distribution Provider	Delivers electrical energy to the End-use customer.
<input type="checkbox"/>	Generator Owner	Owns and maintains generation facilities.
<input type="checkbox"/>	Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/>	Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/>	Market Operator	Interface point for reliability functions with commercial functions.

Standards Authorization Request Form

<input type="checkbox"/>	Load-Serving Entity	Secures energy and transmission service (and related reliability-related services) to serve the End-use Customer.
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Reliability and Market Interface Principles

Applicable Reliability Principles <i>(Check box for all that apply.)</i>	
X	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
X	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
Does the proposed Standard comply with all of the following Market Interface Principles? <i>(Select 'yes' or 'no' from the drop-down box.)</i>	
1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes	
2. An Organization Standard shall not give any market participant an unfair competitive advantage. Yes	
3. An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes	
4. An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes	
5. An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes	

Reliability Standard Review Guidelines

Related Standards

Standard No.	Explanation
IRO-002	Currently contains provisions for backup facilities.

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

Appendix A: Reliability Standard Review Guidelines

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Applicability

Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

Purpose

Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

Performance Requirements

Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

Measurability

Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

Technical Basis in Engineering and Operations

Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

Completeness

Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

Consequences for Noncompliance

Reliability Standard Review Guidelines

In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

Clear Language

Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

Practicality

Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

Capability Requirements versus Performance Requirements

In general, requirements for entities to have 'capabilities' (this would include facilities for communication, agreements with other entities, etc.), should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to 'maintain' their capabilities.

Consistent Terminology

To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a 'unique' definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the 'verb list' from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

Violation Risk Factors (Risk Factor)

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

This is a requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or

restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. A requirement that is administrative in nature;

Or a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

Mitigation Time Horizon

The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- **Long-term Planning** — a planning horizon of one year or longer.
- **Operations Planning** — operating and resource plans from day-ahead up to and including seasonal.
- **Same-day Operations** — routine actions required within the timeframe of a day, but not real-time.
- **Real-time Operations** — actions required within one hour or less to preserve the reliability of the bulk electric system.
- **Operations Assessment** — follow-up evaluations and reporting of real time operations.

Violation Severity Levels

The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replaces the existing 'levels of non-compliance.')

The violation severity levels may be applied for each requirement or combined to cover multiple requirements, as long as it is clear which requirements are included.

The violation severity levels should be based on the following definitions:

- **Lower: mostly compliant with minor exceptions** — the responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details. Equivalent score: 95% to 99% compliant.
- **Moderate: mostly compliant with significant exceptions** — the responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements. Equivalent score: 85% to 94% compliant.
- **High: marginal performance or results** — the responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements. Equivalent score: 70% to 84% compliant.
- **Severe: poor performance or results** — the responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: less than 70% compliant.

Compliance Monitor

Replace, 'Regional Reliability Organization' with 'Electric Reliability Organization'

Fill-in-the-Blank Requirements

Do not include any 'fill-in-the-blank' requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

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Replace, 'Bulk Electric System' with
'bulk power system' ¶

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Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

Requirements for Regional Reliability Organization

Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity.

Effective Dates

Must be 1st day of 1st quarter after entities are expected to be compliant – must include time to file with regulatory authorities and provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan.

Associated Documents

If there are standards that are referenced within a standard, list the full name and number of the standard under the section called, 'Associated Documents'.

Appendix B: Issues to be Considered

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The following issues were carried over from the original industry comments on V0 standards:

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- Robert Snow: (1) There needs to be a requirement on how the operating staff knows that they have lost control center functionality (system health monitor concept or equivalent functionality). (2) Under R1, the contingency plan should address how monitoring and control of facilities will be achieved and provide a maximum time for restoration of the monitorin and control functions.

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The following items were gleaned from FERC Order 693:

- Backup capabilities must:
 - Be independent of the primary control center
 - Be capable of operating for a prolonged period of time generally defined by the time it takes to restore the primary control center
 - Provide for a minimum functionality to replicate the critical reliability functions of the primary control center
 - Provide that the extent of the backup capability be consistent with the impact of the loss of the entity's primary control center on the reliability of the Bulk Power System
 - Include a requirement that all reliability coordinators have full backup control centers
 - Require transmission operators and balancing authorities that have operational control over significant portions of generation and load to have minimum backup capabilities but that they may do so through contracting for these services instead of through dedicated backup control centers

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In addition to the issues cited above, the SDT must consider comments received through the SAR comment forms.

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Form 11
Project 2006-04 Back-up
Facilities

... [1]

Standard Review Form Project 2006-04 Back-up Facilities		
Standard #	EOP-008-0	Comments
Title	Plans for Loss of Control Center Functionality	Okay but could probably drop 'Plans for'.
Purpose		Okay
Applicability		Isn't the reliability entity the TSP and not the TO as per the FM?
Requirements	<i>Conditions</i>	Okay
	<i>Who?</i>	Okay
	<i>Shall do what?</i>	Grammar error in R1.2
	<i>Result or Outcome</i>	Missing
Measures		Measure doesn't define required evidence.
To Do List	<p>FERC NOPR Include a Requirement that all reliability coordinators have full backup control centers since they are essential to Bulk-Power System reliability. Provision for backup capabilities should be an explicit Requirement. Such backup capability, at a minimum, must: (1) be independent of the primary control center; (2) be capable of operating for a prolonged period of time; and (3) provide for a minimum set of tools and facilities to replicate the critical reliability functions of the primary control center.</p> <p>FERC staff report Distinction between providing plans and proving capabilities Independence from primary control center Regional Fill-in-the-Blank Team Comments No comments VO Industry Comments How does staff know control center is lost? How is backup control achieved? Max. time to restore capabilities VRF comments</p> <p>R1 - Not having a written plan does not directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading</p> <p>R1.1 - Not having a written plan is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.</p>	

Standard Authorization Request Form

Title of Proposed Standard	Back-up Facilities Project 2006-04
Request Date	April 11, 2007

SAR Requestor Information	SAR Type (<i>Check a box for each one that applies.</i>)
Name Sam Brattini	<input type="checkbox"/> New Standard
Primary Contact Sam Brattini	<input checked="" type="checkbox"/> Revision to existing Standard
Telephone 215-997-4500 x270 Fax 215-997-3818	<input type="checkbox"/> Withdrawal of existing Standard
E-mail sam.brattini@us.kema.com	<input type="checkbox"/> Urgent Action

Purpose

Applicable Standards: EOP-008: Plans for Loss of Control Center Functionality

The purpose of revising these standards is to:

1. Provide an adequate level of reliability for the North American bulk power systems — the standards are complete and the requirements are set at an appropriate level to ensure reliability.
2. Ensure they are enforceable as mandatory reliability standards with financial penalties — the applicability to bulk power system owners, operators, and users, and as appropriate particular classes of facilities, is clearly defined; the purpose, requirements, and measures are results-focused and unambiguous; the consequences of violating the requirements are clear.
3. Consider other general improvements as described in Appendix A.
4. Consider stakeholder comments received during the initial development of the standards and other comments received from ERO regulatory authorities as noted in the attached review sheets.
5. Satisfy the standards procedure requirement for five-year review of the standards.

Standards Authorization Request Form

Industry Need

As the electric reliability organization begins enforcing compliance with reliability standards under Section 215 of the Federal Power Act in the United States and applicable statutes and regulations in Canada, the industry needs a set of clear, measurable, and enforceable reliability standards. The Version 0 standards, while a good foundation, were translated from historical operating and planning policies and guides that were appropriate in an era of voluntary compliance. The Version 0 standards and recent updates were put in place as a temporary starting point to start up the electric reliability organization and begin enforcement of mandatory standards. However, it is important to update the standards in a timely manner, incorporating improvements to make the standards more suitable for enforcement and to capture prior recommendations that were deferred during the Version 0 and translations. The standard in this project is a Version 0 standard.

Standards Authorization Request Form

Detailed Description

The requirements in EOP-008 need additional specificity. The development revision to EOP-008 may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards. In addition, the efforts of the OC Backup Control Center Task Force will be used as one of the inputs to the revision of EOP-008. Also, there may be backup facility requirements in some other standards, and those requirements should be considered for movement into this standard.

The definition of backup capability that is pertinent to this effort is: the ability to maintain situational awareness and continue to comply with reliability standards when primary control center facilities are not operational. The objective of EOP-008 should be to emphasize the continuation of functionality needed for reliable system operation regardless of the manner in which it is achieved.

Additionally, consideration for communications required to explicitly support backup facilities will be included in the scope of this revision as applicable.

The reliability requirements for EOP-008 are such that simply checking the box in the Reliability Functions table for applicable functional model entities may not be appropriate. In some cases it may impose obligations on entities that are not truly warranted from a Bulk Power System reliability perspective (such as a small Transmission Operator that is only operating a radial transmission system), and at the other end it may not capture entities that are using control centers to perform critical Bulk Power System reliability tasks under delegation agreements.

The basic intent is to apply this standard to any entity for which the loss of its primary control capability would impose a significant real-time reliability risk to the Bulk Power System. In concept this would include:

- All Reliability Coordinators,
 - All Balancing Authorities,
 - All Transmission Operators, except those for which it is determined that loss of primary control capability would not impose a significant real-time reliability risk on the Bulk Power System
- Any entity performing reliability functions as a result of delegation of tasks from any Reliability Coordinator, Balancing Authority or Transmission Operator. An example of this situation would be a transmission control center operated by an entity that is registered as a Transmission Owner but not registered as a Transmission Operator. In order to afford the standard drafting team sufficient scope coverage to consider this delegation question, Transmission Owner is also checked as being a reliability function to which the standard will apply.

Note that Appendix B is an informative attachment that contains material for consideration in the standards revision process. It should not be considered to contain mandatory changes to the standard.

Comments from FERC Order 693 contained in Appendix B will be addressed by the SDT.

Standards Authorization Request Form

Reliability Functions

The Standard will Apply to the Following Functions <i>(Check box for each one that applies.)</i>		
X	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
X	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input type="checkbox"/>	Interchange Coordinator	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input type="checkbox"/>	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/>	Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
<input type="checkbox"/>	Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
<input type="checkbox"/>	Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
X	Transmission Owner	Owns and maintains transmission facilities.
X	Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/>	Distribution Provider	Delivers electrical energy to the End-use customer.
<input type="checkbox"/>	Generator Owner	Owns and maintains generation facilities.
<input type="checkbox"/>	Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/>	Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/>	Market Operator	Interface point for reliability functions with commercial functions.

Standards Authorization Request Form

<input type="checkbox"/>	Load-Serving Entity	Secures energy and transmission service (and related reliability-related services) to serve the End-use Customer.
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Standards Authorization Request Form

Reliability and Market Interface Principles

Applicable Reliability Principles <i>(Check box for all that apply.)</i>	
X	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
X	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
Does the proposed Standard comply with all of the following Market Interface Principles? <i>(Select 'yes' or 'no' from the drop-down box.)</i>	
1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes	
2. An Organization Standard shall not give any market participant an unfair competitive advantage. Yes	
3. An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes	
4. An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes	
5. An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes	

Reliability Standard Review Guidelines

Related Standards

Standard No.	Explanation
IRO-002	Currently contains provisions for backup facilities.

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

Appendix A: Reliability Standard Review Guidelines

Applicability

Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

Purpose

Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

Performance Requirements

Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

Measurability

Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

Technical Basis in Engineering and Operations

Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

Completeness

Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

Reliability Standard Review Guidelines

Consequences for Noncompliance

In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

Clear Language

Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

Practicality

Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

Capability Requirements versus Performance Requirements

In general, requirements for entities to have ‘capabilities’ (this would include facilities for communication, agreements with other entities, etc.), should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to ‘maintain’ their capabilities.

Consistent Terminology

To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a ‘unique’ definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the ‘verb list’ from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

Violation Risk Factors (Risk Factor)

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

This is a requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical

state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. A requirement that is administrative in nature;

Or a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

Mitigation Time Horizon

The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- **Long-term Planning** — a planning horizon of one year or longer.
- **Operations Planning** — operating and resource plans from day-ahead up to and including seasonal.
- **Same-day Operations** — routine actions required within the timeframe of a day, but not real-time.
- **Real-time Operations** — actions required within one hour or less to preserve the reliability of the bulk electric system.
- **Operations Assessment** — follow-up evaluations and reporting of real time operations.

Violation Severity Levels

The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replaces the existing 'levels of non-compliance.')

The violation severity levels may be applied for each requirement or combined to cover multiple requirements, as long as it is clear which requirements are included.

The violation severity levels should be based on the following definitions:

- **Lower: mostly compliant with minor exceptions** — the responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details. Equivalent score: 95% to 99% compliant.
- **Moderate: mostly compliant with significant exceptions** — the responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements. Equivalent score: 85% to 94% compliant.
- **High: marginal performance or results** — the responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements. Equivalent score: 70% to 84% compliant.
- **Severe: poor performance or results** — the responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: less than 70% compliant.

Compliance Monitor

Replace, 'Regional Reliability Organization' with 'Electric Reliability Organization'

Fill-in-the-Blank Requirements

Do not include any 'fill-in-the-blank' requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

Requirements for Regional Reliability Organization

Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity.

Effective Dates

Must be 1st day of 1st quarter after entities are expected to be compliant – must include time to file with regulatory authorities and provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan.

Associated Documents

If there are standards that are referenced within a standard, list the full name and number of the standard under the section called, 'Associated Documents'.

Appendix B: Issues to be Considered

The following issues were carried over from the original industry comments on V0 standards:

- Robert Snow: (1) There needs to be a requirement on how the operating staff knows that they have lost control center functionality (system health monitor concept or equivalent functionality). (2) Under R1, the contingency plan should address how monitoring and control of facilities will be achieved and provide a maximum time for restoration of the monitoring and control functions.

The following items were gleaned from FERC Order 693:

- Backup capabilities must:
 - Be independent of the primary control center
 - Be capable of operating for a prolonged period of time generally defined by the time it takes to restore the primary control center
 - Provide for a minimum functionality to replicate the critical reliability functions of the primary control center
 - Provide that the extent of the backup capability be consistent with the impact of the loss of the entity's primary control center on the reliability of the Bulk Power System
 - Include a requirement that all reliability coordinators have full backup control centers
 - Require transmission operators and balancing authorities that have operational control over significant portions of generation and load to have minimum backup capabilities but that they may do so through contracting for these services instead of through dedicated backup control centers

In addition to the issues cited above, the SDT must consider comments received through the SAR comment forms.