NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

System Restoration and Blackstart SAR Drafting Team

January 17–18, 2007

Meeting Notes

1. Administrative Items

a. Introductions

The meeting was called to order by Dick Kafka at 0800 on January 17, 2007. Attendance was as follows:

Ed Baznik	Francis Esselman (vice chair)	Will Houston
Dick Kafka (Chair)	Mark Kuras	Al McMeekin
Doug Rempel	Mike Richardson	George Rodriguez
Mo Tadayon	Rick Terrill	Ed Dobrowolski (NERC)

b. NERC Antitrust Compliance Guidelines – Ed Dobrowolski

Ed briefly reviewed the guidelines. There were no questions.

c. Review Meeting Agenda & Objectives – Dick Kafka

Dick reviewed the agenda. No changes were made.

2. SDT Overview Session – Ed Dobrowolski

Ed provided a Power Point presentation that is attached to these notes as Attachment A. Highlights included:

- An overview of the Standards Process
- A review of what the topic of industry consensus means – there is a limit to the extent of consensus; you will probably never reach unanimity.
- The definition of a SAR – clear description is required; you cannot go beyond the scope identified in a SAR without a new SAR but you can eliminate certain elements based on group consensus. Therefore, it is important to provide enough flexibility in a SAR to make sure that work can continue as new ideas come to pass.
- The need (or lack of need) for field tests
- The need for a posted implementation plan – round dates such as start of a quarter or start of a year will be used from this point forward
- NERC is encouraging FERC staff to take an active role in the standards process so that FERC inputs come earlier in the process rather than later
- A review of the balloting process
- A review of the changes that need to be made to standards including:

- One line titles
- Specific applicability with no applicability assigned to an RRO
- Use of Functional Model V3
- Measures can roll up requirements but all requirements must be addressed specifically somewhere in a measure
- Violation severity levels replace levels of non-compliance; this is a separate item from risk

All members are encouraged to review the Standards Process Development Guidelines for complete requirements for drafting teams.

3. Review & Finalize SAR Comment Responses – Dick Kafka

Dick led a review of the SAR comments and the team formulated responses to all of the questions and comments. The responses were then fed back into the SAR. The comment response form is included as Attachment B.

4. Review & Finalize SAR – Dick Kafka

Update SAR as necessary to reflect comments

The SAR was revised to reflect the responses to comments. The revised SAR in redline format is included as Attachment C.

a. Decide on future course of SAR

The team decided that the changes made to the SAR were extensive and that another posting for comments should take place. A new question set was developed and is shown as Attachment D.

5. Review Action Items & Schedule – Ed Dobrowolski

Ed reviewed the project schedule as it was created for the Reliability Standards Development Work Plan. This is an aggressive schedule but the team agreed that it is achievable if everyone commits to the plan. A more detailed schedule for this project will be developed shortly.

Ed will submit the revised SAR and question set to Maureen for posting.

6. Schedule Next Meeting – Dick Kafka

The team scheduled a conference call and Web Ex for Thursday, March 8, 2007 from 1100 to 1400 EST. The main objective of this meeting will be to review the comments received from the second posting of the SAR.

A face-to-face meeting of the DT was tentatively scheduled for Wednesday, April 18, 2007 starting at 8AM through Friday, April 20, 2007 at noon. The main objective of this meeting will be to start the actual standards development assuming that the SC has decided to move forward. The location of the meeting is to be determined.

7. Adjourn

The meeting was adjourned at 1030 on January 18.

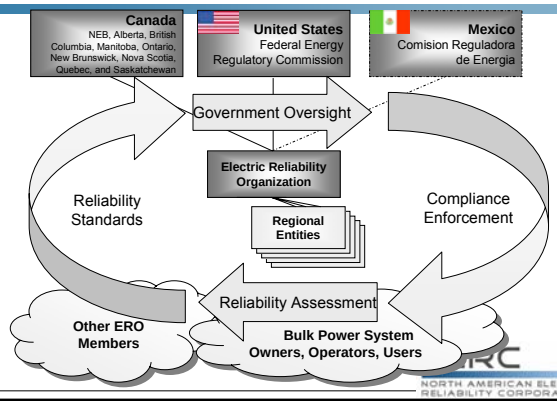
Drafting Team Orientation

Gerry Cauley
VP, Director of Standards

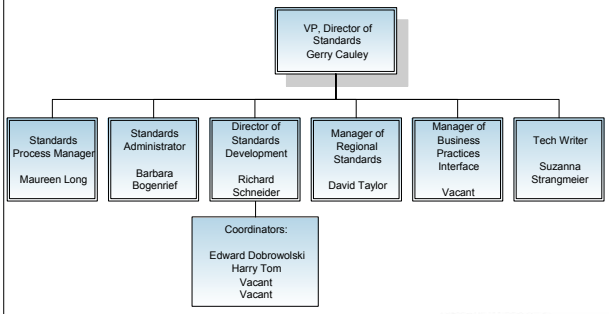
Topics

- Review of standards processes and roles
- Drafting team responsibilities and decision-making
- Work plan and improvements to standards
- Drafting team products and tools
  - Standard authorization request (SAR)
  - Reliability standard
  - Comment form
  - Response to comments
  - Implementation plan
  - Field test
  - On-line resources

Electric Reliability Organization Overview



Standards Staff



Status of NERC Standards

April 2005	90 Version 0 standards go into effect
April 2006	102 standards filed for approval
August 2006	16 new/11 revised standards filed
October 2006	FERC issues standards NOPR
November 2006	3 new/20 revised standards filed
December 2006	3-year standards work plan filed

24 Pending further information "good utility practice"

83 Proposed for Approval

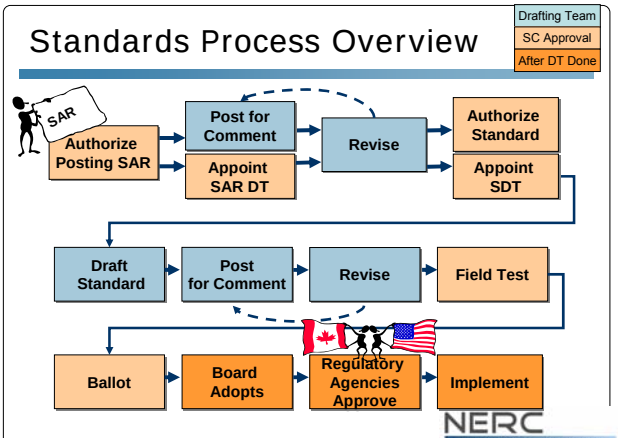
Pending – Cyber Security Standards: 8

Pending – System Limits Standards: 3

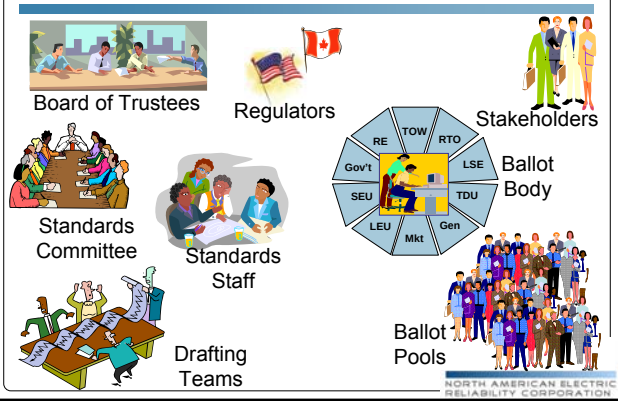
ANSI Accreditation

- NERC process accredited by American National Standards Institute (ANSI)
- ANSI 16 'essential requirements'
  - Open
  - Inclusive
  - Fair
  - Balanced
- Standards Committee ensures standards process adheres to these principles

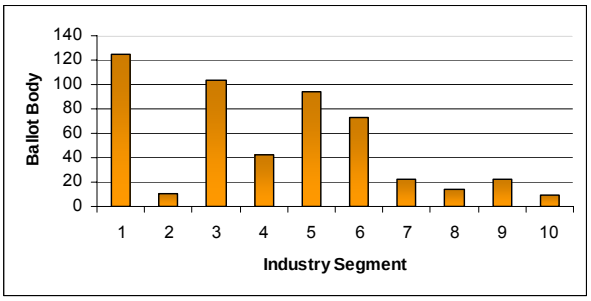
Standards Process Overview



Key Roles in Standards Process



515 Members of Registered Ballot Body



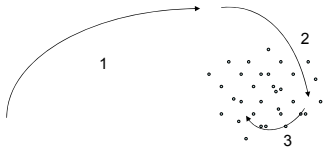
Drafting Teams

- SAR drafting teams
  - SC appoints as needed to assist requester with SAR development and response to comments
  - Requester 'owns' request until authorized for development
- Standard drafting teams
  - SC appoints expert team to draft standard
  - Works on behalf of stakeholders
  - Reports to Standards Committee
- Considerations
  - Necessary expertise and competencies provided
  - Balanced and inclusive perspectives
  - Efficient use of industry resources

Standard Authorization Request (SAR)

- Establishes purpose and scope of proposed standard
- Sponsored by requester until standard authorized for development
- SC may appoint SAR drafting team to assist requester
- Public comments on SAR (multiple postings possible)
- SC authorizes development when consensus reached on purpose and scope

What Is "Consent of the Industry?"



Key Decision Points

- **Standards Committee**
  - **Authorize Posting SAR/Standard** - complete; without conflict
  - **Authorize Standard Development** – (consensus on reliability-related need, scope, applicability)
  - **Authorize Field Test** – evidence test justified (technical committees, compliance program, stakeholder comments)
  - **Authorize Ballot** – evidence process followed (all documents complete; no significant changes without a comment period; evidence of consensus; all comments considered)
- **Drafting Team**
  - **Request Posting SAR/Standard** - complete; without conflict
  - **Request Standard Development** – (consensus on reliability-related need, scope, applicability)
  - **Request Field Test** – evidence test justified (technical committees, compliance program, stakeholder comments)
  - **Request Ballot** – evidence process followed (all documents complete; no significant changes without a comment period; evidence of consensus; all comments considered)

Field Tests

- As needed to validate concepts, methods, measures in a standard
- Drafting team develops field test plan
- Standards Committee approves and oversees field test
- Complete tests before ballot

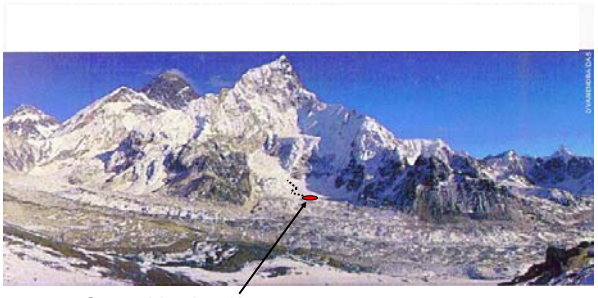
Implementation Plan

- Part of final standard going to ballot
- Must be posted for comment at least once
- Includes
  - Proposed effective date(s) and implementation into compliance program
  - Withdrawal or modification of existing standards
  - Any tools, training, or other implementation considerations

Standard Approval (High Threshold)

- Ballot pool votes to approve industry standard
  - Subset of RBB enrolled to vote on a standard
  - Must enroll before ballot starts
- Electronic ballot over a 10-day period
- Initial ballot and recirculation ballot
  - Recirculation required if 1 or more negative votes with reasons on first ballot
  - Recirculation ballot is by exception
- Quorum is 75% of ballot pool
- Stakeholder approval requires $\geq$ 2/3 weighted average of segments
- Board approves filing standards

The Climb To Really Excellent Reliability Standards



Camp 'Version 0'

Benchmarks of Excellent Standards

1. Applicability
2. Purpose
3. Performance requirements
4. Measurability
5. Technical basis
6. Completeness
7. Known consequences
8. Clear language
9. Practicality
10. Consistent terminology

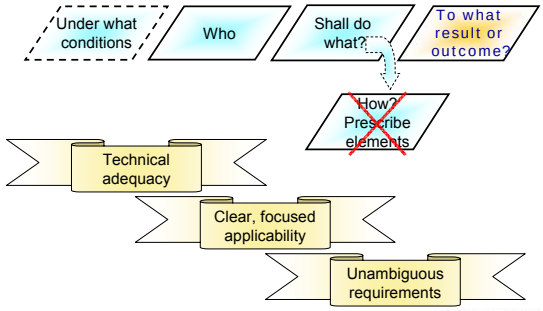
Standards Work Plan: Overview

- Filed 12/1/06 in U.S. and 12/7/06 in Canada
- *Dynamic* management tool
  - Communicate vision
  - Coordinate work
  - Measure progress
- 31 projects grouped by subject matter
- Aggressive but achievable schedule
- Detailed project descriptions listing 'to dos'
- More efficient use of drafting teams
- Integrates 'fill-in-the-blank' plan

Representative Changes to Standards

- Concise title/purpose with a reliability value
- Applicability
  - More specific with regard to entity, facilities, and responsibilities
  - Changes from Functional Model, V3
  - Remove RRO (RE remains compliance monitor)
- Compliance elements
  - Measures; violation severity levels; risk factors; time horizons; etc.

Excellent Reliability Standards



Other Improvements

- Review technical adequacy and performance metrics
- Address 'fill-in-the-blank' standards
- Reorganize, streamline standards
- Merge in organization certification standards
- References
- Variances

Projects Starting in 2006

- 2006-01 System Personnel Training
- 2006-02 Transmission Assessments & Plans
- 2006-03 System Restoration and Blackstart
- 2006-04 Backup Facilities
- 2006-05 Phase III & IV Field Tests
- 2006-06 Reliability Coordination
- 2006-07 ATC, TTC, CBM, and TRM
- 2006-08 Transmission Loading Relief
- 2006-09 Facility Ratings

Projects Starting in 2007

- 2007-01 Underfrequency Load Shedding
- 2007-02 Personnel Communications
- 2007-03 TOP and BA Operations
- 2007-04 Certifying System Operators
- 2007-05 Balancing Authority Controls
- 2007-06 System Protection
- 2007-07 Vegetation Management
- 2007-08 Emergency Operations
- 2007-09 Generator Verification
- 2007-10 Modeling Data
- 2007-11 Disturbance Monitoring

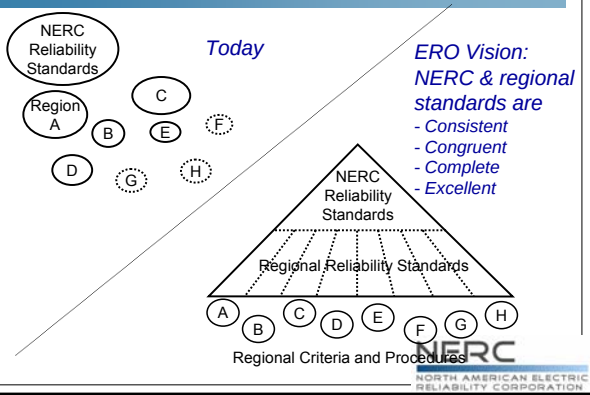
Projects Starting in 2008

- 2008-01 Voltage and Reactive Control
- 2008-02 Undervoltage Load Shedding
- 2008-03 Demand Data
- 2008-04 Protection Systems
- 2008-05 Cyber Security
- 2008-06 Phasor Measurement Units
- 2008-07 Resource Adequacy Assessments

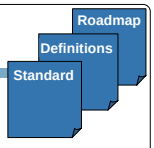
Projects Starting in 2009/10

- 2009-01 Disturbance/Sabotage Reporting
- 2009-02 Facility Connections
- 2009-03 Interchange Information
- 2010-01 Support Personnel Training

Vision for Regional Standards



Standard



- Standard roadmap
- Definitions
- Standard
  - Requirements – risk factors and measures
- Compliance personnel add (SDT is backup)
  - Monitoring responsibility
  - Monitoring period and reset timeframe
  - Data retention
  - Other compliance information
  - Severity levels for requirements

Standard Roadmap

Roadmap

- Shows where DT is in standard development progress
  - Lists steps completed
  - Lists steps to be completed with anticipated dates
  - Must be up to date when drafts posted
- Schedule provided to SC in progress reports
- Removed when standard is approved by BOT

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Standard Definitions

Definitions

- Limit terms to those with unique definitions
- Capitalize already defined terms
- Don't include explanatory information

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Reliability Standard

Standard

- Title
- Purpose (reliability benefit or value of standard)
- Applicability (tells what functions must comply)
- Effective date (FERC-dependent)
- Requirements (tells what must be accomplished)
  - Violation Risk Factor (impact on reliability if violated)
- Measures (tells what will be reviewed to determine if entity is compliant)
- Variances
- Compliance – added by compliance personnel

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Introduction Section

Standard

Introduction

1. Title:
2. Number:
3. Purpose:
4. Applicability:
   - 4.1. Functional Entity
   - 4.2. Facility Limitations
5. Effective Date:

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Introduction Section

Standard

- Title – Keep it short; main topic and modifiers; minimize verbs
- Purpose – from SAR (condense into a sentence or two); clear indication of reliability value/benefit; no 'shall' or 'must' requirements
- Applicability:
  - Functions - lists the "functional entities" that must comply with the standard's requirements along with any specific qualifications (i.e., that own UVLS programs)
  - Facilities – lists any qualifications to limit the scope of facilities addressed (i.e., 100 kV and above)

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Requirements Section

Standard

B. Requirements

- **R1.** (requirement) (risk factor)
  - **R1.1.** (sub-requirement)
  - **R1.2.** (sub-requirement)
- **R2.** (requirement) (risk factor)
- **R3.** (requirement) (risk factor)
- **R4.** (requirement) (risk factor)

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Requirements Section

Standard

- Requirements specifically state the technical, performance, and preparedness details that each entity must meet using the NERC reliability benchmark.
- The benchmark for a performance requirement is measured by the question: "Who shall do what, under what conditions and to what level, for what reliability result?" The benchmark breaks down into 5 construction elements that follow the sequence below:

  Who (1) + "***shall***" do what (2) + under what conditions (3) and to what level (4) + for what expected reliability result (5)?

- The word ***shall*** is used before the verb to modify the meaning of the main verb, in the case of the NERC reliability standards, to expresses ***necessity***. Using the 5 construction elements of the benchmark – with one and two in sequence – ensures that the performance requirement is written in active voice and clearly states the expected reliability objective.

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Requirements

Standard

- Write in "active voice" ("shall be" is passive)
- Identify any qualifying conditions (if any) under which the performance is required
- Identify the responsible entity or entities
- Include the word "shall"
- Identify the required performance or outcome
- Identify what the performance will achieve
- Write as simply as possible
  - Avoid use of "negatives"
- Avoid use of ambiguous or subjective terms
- Don't tell "how"

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Avoid Use of Ambiguous Words

Standard

- Adequate
- Data
- Immediately
- Timely
- Detailed
- Sufficient
- Comprehensive
- As appropriate
- Coordinate

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Violation Risk Factors

Standard

- High – violation could lead to cascading failures
- Medium – violation could have an adverse impact on system conditions capability, or situational awareness
- Lower – violation would not be expected to affect the electrical state or capability of the bulk power system, or the ability to effectively monitor and control the bulk power system

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Measures

Measures

C. Measure

M1.

M1.1.

M1.2.

M2.

M3.

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Measures

Measures

C. Measure

M1. Each standard shall include one or more measures that will be used to assess performance and outcomes for the purpose of determining compliance with requirements.

- The DT should write measurements that identify how a third party or auditor would measure required performance or outcomes, e.g., compliance, including I identification of each entity to which the measure applies.
- Each measure shall be tangible, objective, and as practical as possible

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Compliance Elements

- Compliance Monitoring – who will be monitor?
- Identify how to demonstrate compliance:
  - Self-certification
  - Periodic reporting
  - Exception reporting
  - Triggered investigation
  - Spot reviews
  - Periodic audits
- Performance Monitoring & Reset Period
  - Time period for measuring performance & then re-starting measurement period
- Data Retention
  - What data must be kept & for how long & by whom

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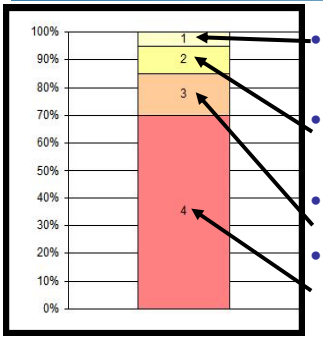
Violation Severity Levels



- Level 1: mostly compliant with minor exceptions
- Level 2: mostly compliant with significant exceptions
- Level 3: marginal performance or results
- Level 4: poor performance or results

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Comment Forms

- Ask very pointed questions
- If you've made changes, ask for feedback
- Ask for feedback on implementation plan
- Ask if field testing is needed
- Ask if there are any Variances
- Ask if there are any known conflicts with existing regulations

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Responding to Comments

- Read through comments to get a 'sense' of stakeholders' reactions
- Consider and respond to **every** comment
  - Responses must be respectful
  - Responses should provide a justification
- Develop a 'summary response' to each form question
- Add an overview of the changes made – including the issues resolved and those that weren't resolved
- Make conforming changes to the standard
- Can't expand scope of SAR but can develop a standard that is smaller than the scope of the SAR – if needed, revise the SAR to expand the scope

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Incorporating Suggested Changes

If the suggestion is submitted by	And the suggestion . . .	Then . . .	Ask stakeholders to . . .
Multiple entities in multiple regions	Does / may have technical merit	Incorporate suggestion	Confirm change

Incorporating Suggested Changes

If the suggestion is submitted by	And the suggestion . . .	Then . . .	Ask stakeholders to . . .
Multiple entities in multiple regions	Does / may have technical merit	Incorporate suggestion	Confirm change
	Does not have obvious technical merits	Tell why suggestion lacks technical merit	

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Multiple entities in multiple regions	Does / may have technical merit	Incorporate suggestion	Confirm change
	Does not have obvious technical merits	Tell why suggestion lacks technical merit	
Single entity or by multiple entities in a single region	Does / may have technical merit	If widespread support anticipated, incorporate suggestion	Confirm change

Incorporating Suggested Changes

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Multiple entities in multiple regions	Does / may have technical merit	Incorporate suggestion	Confirm change
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Single entity or by multiple entities in a single region	Does / may have technical merit	If widespread support anticipated, incorporate suggestion	Confirm change
		If widespread support not anticipated, don't incorporate	Indicate preference for suggestion

Incorporating Suggested Changes

If the suggestion is submitted by	And the suggestion . . .	Then . . .	Ask stakeholders to . . .
Multiple entities in multiple regions	Does / may have technical merit	Incorporate suggestion	Confirm change
	Does not have obvious technical merits	Tell why suggestion lacks technical merit	
Single entity or by multiple entities in a single region	Does / may have technical merit	If widespread support anticipated, incorporate suggestion	Confirm change
		If widespread support not anticipated, don't incorporate	Indicate preference for suggestion
	Does not have obvious technical merits	Tell why suggestion lacks technical merit	

Implementation Plan

- Tells stakeholders how/when standard will be implemented and identifies:
  - Any already approved standards that should be modified as a result of the proposed standards
  - Functional entities that must comply and when
- Choosing proposed effective date(s)
  - NERC approval process
  - Regulatory process (at least 90 days)
  - Implementation time
  - Phase in of requirements
  - Start on calendar quarter/year

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Field Testing

- Ask stakeholders for their views
- Document drafting team's views
- Ask VP, Director of Compliance to send SC a recommendation
- SC makes final determination – may ask a tech committee to oversee field test

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Downloading the SAR form

1 - Log on the NERC Website at http://www.nerc.net

2 - Click on the Reliability Standards link, emphasized with the arrow seen below

Downloading the SAR form

1 - On the Reliability Standards Home Page exists a column of links on the left side

2 - Click on the Standards Under Development link, emphasized with the arrow seen below

Downloading the SAR form

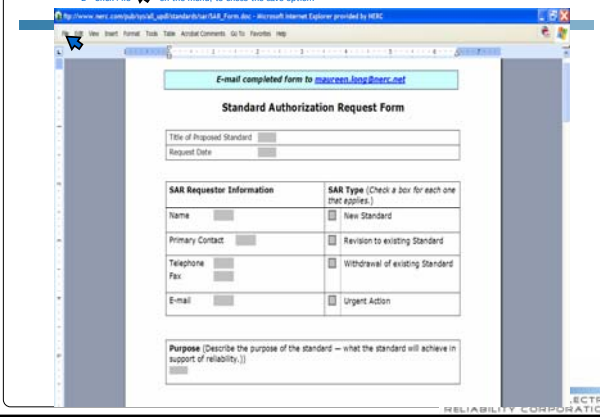
1 - On the Reliability Standards Under Development page are several links centered at the top.

2 - Click on the Standard Authorization Request (SAR) Form link, emphasized with the arrow seen below

Downloading the SAR form

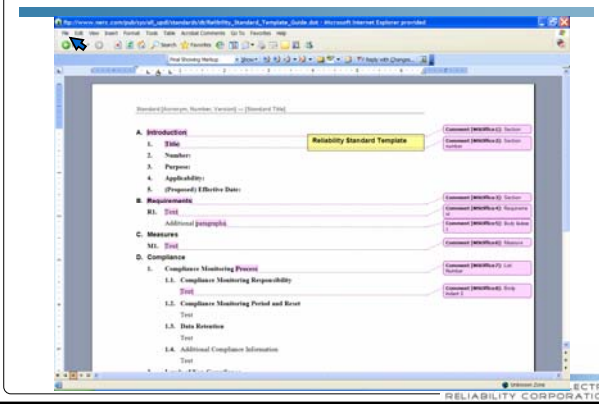
1 - Once you click on the Standard Authorization Request (SAR) form, the template will open in a new window.

2 - Click File on the menu, to chose the save option.



Downloading the Reliability Standards Template

1 -Click on the File option of the menu to save the template to your desktop as a Word document, emphasized with the arrow seen below.



Questions?

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Comment Report — System Restoration and Blackstart SAR

The **[System Restoration and Blackstart SAR]** Drafting Team thanks all commenters who submitted comments on the **[Draft 1]** of the **System Restoration and Blackstart SAR]**. This **[SAR]** was posted for a **[30-]** day public comment period from **[November 6 through December 5, 2006]**. The **[System Restoration and Blackstart SAR Drafting Team]** asked stakeholders to provide feedback on the standard through a special standard Comment Form. There were 26 sets of comments, including comments from more than 65 different people from more than 40 companies representing 7 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 SAR be re-posted for an additional comment period.

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

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

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Gerry Cauley at 609-452-8060 or at gerry.cauley@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.

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
1.	Anita Lee	Alberta Electric System Operator		✓								
2.	John Sullivan	Ameren	✓									
3.	James Sorrels	American Electric Power	✓				✓	✓				
4.	Jason Shaver	American Transmission Company	✓									
5.	Jack Kerr	Dominion Virginia Power	✓									
6.	Ed Davis	Entergy Services, Inc.	✓									
7.	Will Franklin	Entergy Services, Inc.						✓				
8.	Dave Kiguel	Hydro One Networks Inc.	✓									
9.	Ron Falsetti	Independent Electricity System Operator		✓								
10.	Roderick Conwell	IPL (MISO)	✓									
11.	Charles Yeung (SPP)	IRS Standards Review Committee		✓								
12.	Tom Bowe (PJM)	IRS Standards Review Committee		✓								
13.	Mike Calimano (NYISO)	IRS Standards Review Committee		✓								
14.	Ron Falsetti (IESO)	IRS Standards Review Committee		✓								
15.	Matt Goldberg (ISONE)	IRS Standards Review Committee		✓								
16.	Brent Kingsford (CAISO)	IRS Standards Review Committee		✓								
17.	Anita Lee (AESO)	IRS Standards Review Committee		✓								
18.	Steve Myers (ERCOT)	IRS Standards Review Committee		✓								
19.	Bill Phillips (MISO)	IRS Standards Review Committee		✓								
20.	Kathleen Goodman	ISO New England		✓								
21.	Brian Thumm	ITC Transmission	✓									
22.	Jim Cyrulewski	JDRJC Associates (MISO)								✓		
23.	Jim Useldinger	Kansas City Power & Light Company	✓									
24.	Robert Coish	Manitoba Hydro	✓		✓		✓	✓				
25.	Dede Subakti	Midwest ISO Emergency Prepardness and System Restoration Working Group		✓								
26.	Terry Bilke	Midwest ISO, Inc.		✓								
27.	Guy Zito (NPCC)	NPCC CP9 Reliability Standards Working Group		✓								
28.	Ralph Rufrano (NYPA)	NPCC CP9 Reliability Standards Working Group	✓									
29.	Kathleen Goodman (ISONE)	NPCC CP9 Reliability Standards Working Group		✓								
30.	Bill Shemley (ISONE)	NPCC CP9 Reliability Standards Working Group		✓								
31.	Greg Campoli (NYISO)	NPCC CP9 Reliability Standards Working Group		✓								
32.	Roger Champagne (TEHQ)	NPCC CP9 Reliability Standards Working Group	✓									
33.	David Kiguel (Hydro One)	NPCC CP9 Reliability Standards Working Group	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
34.	Herbert Schrayshuen (NGrid)	NPCC CP9 Reliability Standards Working Group	✓									
35.	Donald Nelson (MA Dept. of Tele and Energy)	NPCC CP9 Reliability Standards Working Group									✓	
36.	Ed Thompson (ConEd)	NPCC CP9 Reliability Standards Working Group	✓									
37.	Ron Falsetti (IESO)	NPCC CP9 Reliability Standards Working Group		✓								
38.	Alan Adamson (NYSRC)	NPCC CP9 Reliability Standards Working Group										✓
39.	Jerad Barnhart	NSTAR Electric	✓									
40.	Mike Anthony	Progress Energy Carolinas	✓									
41.	Phil Riley	Public Service Commission of SC									✓	
42.	Mignon L. Clyburn	Public Service Commission of SC									✓	
43.	Elizabeth B. Fleming	Public Service Commission of SC									✓	
44.	G. O'Neal Hamilton	Public Service Commission of SC									✓	
45.	John E. Howard	Public Service Commission of SC									✓	
46.	Randy Mitchell	Public Service Commission of SC									✓	
47.	C. Robert Moseley	Public Service Commission of SC									✓	
48.	David A. Wright	Public Service Commission of SC									✓	
49.	Mike Gentry	Salt River Project	✓									
50.	J.T. Wood	Southern Company Services, Inc.	✓									
51.	Marc Butts	Southern Company Services, Inc.	✓									
52.	Roman Carter	Southern Company Services, Inc.	✓									
53.	Robert Jones	Southern Company Services, Inc.	✓									
54.	Kathy Davis	Tennessee Valley Authority	✓									
55.	Sue Mangum Goins	Tennessee Valley Authority	✓									
56.	Earl Shockley	Tennessee Valley Authority	✓									
57.	Jerry Landers	Tennessee Valley Authority	✓									
58.	Mark Creech	Tennessee Valley Authority	✓									
59.	Ellis Rankin	TXU Electric Delivery Company	✓									
60.	Travis Besler	TXU Electric Delivery Company	✓									
61.	Nancy Bellows (WACM)	WECC Reliability Coordination Comments Work Group		✓								
62.	Terry Baker (PRPA)	WECC Reliability Coordination Comments Work Group		✓								
63.	Tom Botello (SCE)	WECC Reliability Coordination Comments Work Group		✓								
64.	Richard Ellison (BPA)	WECC Reliability Coordination Comments Work Group		✓								
65.	Mike Gentry (SRP)	WECC Reliability Coordination Comments Work Group		✓								
66.	Robert Johnson (PSC)	WECC Reliability Coordination		✓								

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
		Comments Work Group										
67.	Greg Tillitson (CMRC)	WECC Reliability Coordination Comments Work Group		✓								
68.	Martin Trence	Xcel Energy – NSP	✓									

Index to Questions, Comments, and Responses

Do you believe that there is a reliability-related need to upgrade the requirements in this set of standards?

Question #1			
Commenter	**Yes**	**No**	**Comment**
ITC Transmission		☑	Many of the items in the "To Do" lists appear administrative in nature, and not necessarily rooted in a reliability need. The requirements could use some upgrading, yes, but the need does not appear to be purely reliability-related.
Entergy Services, Inc.		☑	We believe there is not a reliability-related need to upgrade the requirements in this set of standards. We do agree these standards need to be reviewed and revised to make them better standards.
Ameren		☑	No additional comments.
Response: NERC has developed the Reliability Standards Development Work Plan and this SAR is in support of that effort. While some of the work is administrative in nature, it is believed that it will improve the standards and make them clearer, measurable and more consistent. As we move forward through the standards development effort itself, we believe that the true reliability benefits will come forward.			
Salt River Project	☑		Admittedly, there are some "holes" in the current version.
WECC Reliability Coordination Comments Work Group	☑		There are gaps in the current version.
Kansas City Power & Light Company	☑		There are reliability-related reasons to upgrade the requirements in these standards.
American Transmission Company	☑		TC agrees that an upgrade is needed on this set of standards.
Midwest ISO, Inc.	☑		We agree that the restoration-related standards need improvement.
Response: The SAR DT thanks the commenters and as shown in the previous response, we believe that there is a reliability-related need to continue the work.			
Tennessee Valley Authority	☑		We do not agree that there should be a requirement for an RC Restoration Plan in EOP-005. It may be appropriate to add a requirement in 005 that says the RC is aware of the TO and BA Plans but is not bound to it as they are looking at the bigger picture. The requirements in EOP-006, for the RC's role in System Restoration, are sufficient and as long as the Functional Model seperates entities then it is appropriate for their requirements to be in seperte standards as we see it. There is a "mix of requirements" between Advance Planning and Real-Time activities and we think they need to be seperated with section headings for the two. We don't understand what the "fill-in-the-blank" components are. We don't agree that Attachment 1 from EOP-005 should be moved into the requirements of the Standard. Instead, the industry should be asked to submit what they think should be included.
Response: This comment is pertinent to the actual standards development and we will pass this comment on to the eventual Standards Drafting Team (SDT) for consideration when applicability is reviewed. We do believe that the RC does have a role in restoration planning. This SAR covers four different existing standards that do move between planning and real-time and the distinctions will be made clear			

Question #1			
Commenter	**Yes**	**No**	**Comment**
as the standards are revised. "Fill-in-the-blank" refers to NERC standards that delegated requirements to regional entities. The NERC Regional Reliability Standards Working Group identified these standards as having 'fill-in-the-blank' requirements that need to be modified. The actual revision of Attachment I and its move to requirements is an action for the SDT to consider after hearing comments from the industry.			
Manitoba Hydro	☑		There is too much ambiguity in the requirements and measures, plus some requirements may allow too much leaway which may affect reliability of restoring the system. It is also not clear which standard is being reviewed; ie. the SAR form lists the first standard as EOP-005-0 but the comments are based on EOP-005-1.
Response: The SAR DT agrees with the comments. The SAR will be amended to state that EOP-005-1 is the standard to be reviewed.			
Xcel Energy – NSP	☑		The structure of these and a few additional standards need to be revised to reflect a more realistic approach to planning, real-time execution, and measurable compliance to system restoration standards.
Response: The SAR DT agrees with the comments.			
Entergy Services, Inc.	☑		
Alberta Electric System Operator	☑		
IRC Standards Review Committee	☑		
Hydro One Networks Inc.	☑		
MISO Emergency Preparedness and System Restoration Working Group	☑		
NPCC CP9 Reliability Standards Working Group	☑		
Dominion Virginia Power	☑		
Southern Company Services, Inc.	☑		
NSTAR Electric	☑		
American Electric Power	☑		
ISO New England	☑		
Progress Energy Carolinas	☑		
Public Service Commission of SC	☑		

Question #1			
Commenter	**Yes**	**No**	**Comment**
Independent Electricity System Operator	☑		
TXU Electric Delivery Company	☑		

Do you agree with the scope of the proposed project? (The scope includes all the items noted on the 'Standard Review Forms' attached to the SAR as well as other improvements to the standards that meet the consensus of stakeholders, consistent with establishing high quality, enforceable, and technically sufficient bulk power system reliability standards.)

Question #2			
Commenter	**Yes**	**No**	**Comment**
Tennessee Valley Authority		☑	All of the "Standard Review Forms" refer to the Version 0 documents…why not include the Version 1 that is due to go into affect in '07 for EOP-005 and EOP-006?
Response: This was an error and the SAR will be amended to handle the -1 versions.			
ITC Transmission		☑	The scope of the SAR for EOP-006, 007, and 009 are overly vague. The scope of the SAR is indiscernable. The scope of the SAR for EOP-005 appears to desire industry debate on several topics more than it desires to actually upgrade a standard.
IRC Standards Review Committee	☑	☑	The SRC would suggest that the SAR be clear that it will be a complete review of the subject requirements: to include the addition, deletion and modification of requirements as agreed to by public consensus and not be limited to the "TO DO LIST" identified in this draft.
MISO Emergency Preparedness and System Restoration Working Group		☑	The scope of this project should not be limited to just revising four Standards due to directives from regulatory bodies, but should be flexible to meet industry needs, whether additional or fewer Standards are required to address System Restoration and Blackstart needs. Review and modification of other existing Standards may be required (e.g.EOP-001).
Southern Company Services, Inc.	☑	☑	There is a concern that the SAR process is being skipped over (due to the granular nature of the recommendation changes) and the changes being recommended are more inclined to be addressed by the Standard (not SAR) drafting team. The SAR is not "clearly defining the scope". For example, they have started attaching some documents with the title "Standard Review Form". Those documents contain comments generated by FERC, NERC, and the industry. However, the SAR does not say whether these comments must be accomodated or whether they just need to be considered.
Manitoba Hydro		☑	Manitoba Hydro believes these standards need to be as high quality as possible, as consistent as possible and have the measurements in place to ensure reliability. This SAR should require that Violation Risk Factors (VRF's) be assigned to all the requirements in the revised standards and that the VRF's be included in the revised standards. This can be coordinated with the current activity on.
Midwest ISO, Inc.		☑	The scope should be more focused. Right now it looks like a laundry-list.
Kansas City Power & Light Company		☑	The scope needs to be more focused. EOP-5 All comments under the various groups identified are not specific enough to respond to except the comments under "FERC NOPR", "FERC Staff", 4th bulleted item under "V0 Industry Comments" and all bullets under "Phase III/IV Comments". Agree with all bulleted items under "FERC NOPR" and "FERC Staff". Do not agree with bulleted items 1-7 or 10-12 and agree with bulleted items 8 & 9 under "Phase III/IV Comments". Regarding bulleted items 8 & 9 under "Phase III/IV Comments", would recommend the testing and training periodicity for R5 and R6 be on an annual basis.

Question #2			
Commenter	**Yes**	**No**	**Comment**
			Do not agree that Load Serving Entities or Generation Owners should have restoration plans. The proposed EOP-5 version 1 does not include any requirement or applicability for the LSE and GO and this is the way it should be. EOP-6 Agree with comments regarding the measures and the measures proposed in EOP-6 version 1. Do not agree with any of the other comments under "FERC NOPR" or "FERC Staff". The comments under "Regional Fill-in-the-Blank Team Comments" are not specific enough to respond to.
Response: The SAR DT appreciates these comments and we have considered them in our revision of the SAR. NERC has developed the Reliability Standards Development Work Plan and this SAR is in support of that effort. It is believed that it will improve the standards and make them clearer, measurable and more consistent. The scope of the SAR is designed to provide the SDT with sufficient flexibility to address all necessary revisions. Work is not to be limited to the 'To Do List', nor are the items identified there mandatory revisions. Changes to other standards such as EOP-001 can be identified and passed on to the appropriate drafting team(s). The development of Violation Risk Factors are required as part of the Standards Development Process and will be included by the SDT. The SAR DT believes that at a minimum there should be coordination between the various parties.			
Entergy Services, Inc.		☑	There are several issues within the proposed SAR that concern scope, timing and sequence. Attachment 1 of EOP-005 contains elements that should be reviewed in the development of a restoration plan. However, we disagree with the SAR authors that - the conditions under which an entity is exempt from including an element in its system restortation plan need to be specified - should be deleted. All the reasons that a developer may need for not including an element can not be specified nor included in the requirements of a standard or a plan. The second paragraph of the Brief Description contains a statement that in EOP-005 the RC does not have any requirement to have a system restoration plan. We are not sure what the authors mean by this vague statement. However, we think it is appropriate and correct that the RC does not have a system restoration plan. We agree with the existing standards that the TOP and BA have restoration plans as required in EOP-005 and the RC assists with coordinating the implementation of those plans as required in EOP-006. Therefore, please delete the second paragraph of the Brief Description. The second sentence of the third paragraph of the Brief Description contains a statement about ensuring the lines of authority clarified under the RC (Project 2006-03) and Real-time Transmission Operations and Balancing of Load and Generation (Project 2007-03) are fully supported in the refinement of this set of standards. This sentence should be deleted. The SAR contains something identified as Project 2006-03 System Restoration and Blackstart which does not seem to address the lines of authority of the RC. In addition, there is no Project 2007-03 in the SAR so we can not agree to making the EOP standards conform to requirements that are not available. In addition, the lines of authority of the RC should be contained in EOP-006.

Question #2			
Commenter	**Yes**	**No**	**Comment**
			We agree with the idea that the fill-in-the-blank components of EOP-007 and EOP-009 should be filled in, which is what we think is meant by the term "eliminate". We do not agree with the elimination of the fill-in-the-blanks if the authors really meant. We are concerned about the open-ended statements in the SAR. The statement that - development may include other imprevements to the standards deemed appropriate - should contain a statement that those other improvements will be limited to the standards and requirements identified in this SAR, and approval of this SAR is not an open-ended approval to change standards and requirements other than the standards identified in this SAR in other standards that directly concern system restoration and are directly applicable to this approved SAR.
Response: We agree that that the brief description needs to be revised for clarity and have addressed that in the revised SAR. The scope of the SAR is designed to provide the SDT with sufficient flexibility to address all necessary revisions.			
Dominion Virginia Power		☑	Contrary to what the SAR says, there is indeed a requirement for Reliability Coordinators to have System Restoration Plans. In fact, requirement R3 of EOP-006 states, "The Reliability Coordinator shall have a Reliability Coordinator Area restoration plan that provides coordination between individual Transmission Operator restoration plans and that ensures reliability is maintained during system restoration events." With this requirement, it is not necessary for RCs to have restoration plans that are equivalent to the TO and BA plans. However, RCs must be involved in the development and approval of the TO and BA plans in order to ensure that the RC's over-arching plan is viable and actually maintains reliability during system restoration events.
Response: We do believe that the RC does have a role in restoration planning. The SAR DT believes that at a minimum there should be coordination between the various parties.			
Xcel Energy – NSP		☑	It is questionable if the concept of a "Regional Restoration Plan" should remain in existence as the responsibility of implementing restoration plans lie with the Transmission Operator, Balancing Authority, Generator Operator (where applicable), and Reliability Coordinator. A Regional Reliability Organization is not structured to implement system restoration plans, their function has evolved for the most part to set standards and perform in conjunction with the ERO compliance monitoring. There are also critical utility infrastructure issues that need to be addressed in the sharing of restoration plans.
Response: The SAR DT appreciates these comments and we have considered them in our revision of the SAR. We do believe that the RC does have a role in restoration planning. The SAR DT believes that at a minimum there should be coordination between the various parties.			
American Transmission Company	☑		The SAR DT needs to provide a more detailed explanation as to the role of each entity that is checked under the "Reliability Functions" section, particularly those roles that have not been identified under the Applicability section for these Standards in the past, such as Planning Authority, Distribution Provider and Load Serving Entity. The SAR should task the SDT with developing a comprehensive set of standards that address blackstart planning, testing and coordination. In order to perform this task the team should be given wide latitude

Question #2			
Commenter	**Yes**	**No**	**Comment**
			in developing a new set of standards and requirements. Therefore the SAR should not limit the team to organize its work within a predefined number of standards as more standards may be required to address the roles of new entities not subject to these standards in the past. Does the SDT envision any major changes to the roles currently performed by the Transmission Operator, Balancing Authority, Reliability Authority, Generator Owner, Generator Operator? If so, what are they? Finally, ATC believes that any proposed requirements for parties to execute contractual agreements, as described under "Phase III/IV comments," are outside the scope and purview of the SDT. EOP-007-0 ATC agrees that this standard should not apply to the RRO. ATC suggests that the SDT review Standard EOP-007-0 in terms of having the Reliability Coordinator perform those tasks currently performed by the RRO. EOP-005-1 (Attachment 1) Lastly, ATC would like to see a change to one of the sentences in the Brief Discription section of the SAR. Third Sentence of the First Paragraph: "The Elements in the attachment need to be reviewed and the condition under which an entity is exempt…." Suggested Change: The elements in the attachment need to specify which entities are responsible for each element listed.
Response: The SAR DT appreciates these comments and we have considered them in our revision of the SAR. We do believe that the RC does have a role in restoration planning. The SAR DT believes that at a minimum there should be coordination between the various parties. The scope of the SAR is designed to provide the SDT with sufficient flexibility to address all necessary revisions. Work is not to be limited to the 'To Do List', nor are the items identified there mandatory revisions.			
Ameren	☑		Does this SAR apply to Reliability Standards EOP-005-0 and EOP-006-0, or to EOP-005-1 and EOP-006-1? We do not see a benefit to adding LSE's to the Applicability section of EOP-005-1, and we do not believe adding LSE's to R4 of EOP-005-1 would contribute to the effectiveness of the restoration plan, and

Question #2			
Commenter	**Yes**	**No**	**Comment**
			would make implementation of the plan more onerous. We do not agree with deleting R11.5.4 of EOP-005-1. However, this item should be retained as a consideration, not a requirement.
Response: The SAR will be amended to state that the current standards will be reviewed. The SAR DT appreciates these comments and we have considered them in our revision of the SAR.			
WECC Reliability Coordination Comments Work Group	☑		The group agrees with the scope of the proposed project, but feels that clarification of the portion of blackstart and restoration plans that the reliability coordinator approves needs to be restricted to a reasonable expectation. The Reliability Coordinator should review and approve only those portions of individual restoration plans that establish the backbone power system. There is no need for the Reliability Coordinator to be responsible for detailed plans of the BA, TO, GOP, LSE, etc. Specify the portions of the individual plans that need Reliability Coordinator review and approval.
Response: The SAR DT appreciates these comments and we have considered them in our revision of the SAR. We do believe that the RC does have a role in restoration planning. The SAR DT believes that at a minimum there should be coordination between the various parties.			
Salt River Project	☑		The scope appears reasonable in order to provide measurable reauirements.
Entergy Services, Inc.	☑		
Alberta Electric System Operator	☑		
Hydro One Networks Inc.	☑		
NPCC CP9 Reliability Standards Working Group	☑		
ISO New England	☑		
Progress Energy Carolinas	☑		
Independent Electricity System Operator	☑		
NSTAR Electric	☑		
American Electric Power	☑		
Public Service Commission of SC	☑		
TXU Electric Delivery Company	☑		

Please identify any additional revisions that should be incorporated into this set of standards, beyond those that have already been identified in the SAR.

Question #3			
Commenter	**Yes**	**No**	**Comment**
American Transmission Company		☑	References to Standard EOP-005-0 (Version 0) should be replaced with EOP-005-1 (Version 1) which will be effective on January 1, 2007. References to Standard EOP-006-0 (Version 0) should be replaced with EOP-006-1 (Version 1) which will be effective on January 1, 2007.
IRC Standards Review Committee			The SRC agrees that there is a need to review, upgrade and revise the Restoration and Blackstart set of standards. However, the SRC would also recommend the SAR be rewritten to clearly describe the scope of process being proposed. At a minimum, the SAR should identify which standards will be under review: the version 0 or version 1 standards. It is unclear if and why EOP-005-0 and EOP-006-0 would be reviewed rather than EOP-005-1 and EOP-006-1.
Response: The SAR will be amended to state that the current standards will be reviewed. The SAR DT appreciates these comments and we have considered them in our revision of the SAR.			
Tennessee Valley Authority		☑	
WECC Reliability Coordination Comments Work Group		☑	
Salt River Project		☑	
Response: No comment required.			
Alberta Electric System Operator	☑		The AESO recommends the following revisions to be incorporated: 1. The SAR should refer to the most updated and current standards. Let's say EOP-005-1 and EOP-006-1 and not EOP-005-0 and EOP-006-0 2. Considering adding definitions to EOP-005-1 for: - Partial or total shut down; - Vital telecommunications channels; - System restoration; - Blackstart capability plan; and - System restoration plan. 3. Consider adding a requirement for Generator Operators to have generating facilities blackstart procedures. Those procedures shall be coordinated with the Transmission Operator's System Restoration plan 4. Consider revising training in R6. Training requirements should be quoted as stated and required in a different standard, let's say PRC. And with regards to training, it shall be state "what" should be the

Question #3			
Commenter	**Yes**	**No**	**Comment**
			minimum training required for TO, BA and Generating facilities. And also, clarification as "what" is expected as "simulated exercises". What are those? It is DTS what is required? Or is it a table top adequate? 5. Consider defining what is as a minimum required criteria for "simulated exercises" in the understanding that it will not be practical to perform "an actual test" to the entire restoration plan. Further more, What is the meaning for simulation? DTS? Power flows? EMTP? Other? 6. Consider revising EOP-005-1 R9 "switching requirements" and trying not to be prescriptive in telling the "hows" instead of the "what" is required to comply with. The requirement should no be a "cook book". If considering keeping this requirement, then consider defining "switching requirements". 7. Consider revising EOP-005-1 R10 in order to clarify "simulation testing"
Response: The SAR will be amended to state that the current standards will be reviewed. Consideration of definitions is left to the SDT and this comment will be passed on to that team. We have added the role of the GO and generating facilities procedures to the revised SAR. We feel that restoration training is a function of the PER standards and that standards should describe 'what' and not 'how'. We feel that there is sufficient flexibility in the SAR to handle the comments made in points 5 through 7 when the actual standard revision work starts.			
Hydro One Networks Inc.	☑		In EOP-5, Compliance, Section 1.4.1 -Hydro One requests clarification of the phrase "critical load requirements". The phase can be interpreted as: (i) available and easily accessible loads to be restored for voltage control in network restoration on the bulk power system level. These are loads employed to expedite the restoration of the interconnection. (ii) loads of importance to health/safety/national security - police, hospitals, govt. offices. These are really distribution loads that are restored once the interconnection is restored and the transmission system is rebuilt. (iii) restoring off-site power to key transmission facilities. We suggest that mention of critical loads should be replaced by the restoration of critical transmission and generation facilities necessary to restore load. With regard to the Phase III/IV comments on EOP-005 Restoration Plans: (1) Locking the restoration to single, contractual cranking path. A robust restoration plan must be flexible. It is impossible to define in advance what equipment will be available for service in the aftermath of a system collapse. The concept of an explicitly defined cranking path, locked into a restoration plan by contractual requirements, precludes flexibility and is restrictive-further complicating what may be an intricate process. Identifying and communicating and coordinating the intended cranking path is a valid aspect

Question #3			
Commenter	**Yes**	**No**	**Comment**
			of restoration. This is included in the second bullet of the Phase III/IV comments. The fourth bullet of the Phase III/IV comments should be removed from the SAR. 2) R3- Placing emphasis on restoring local transmission. There is no need for the bullet on R3. The recommendation as noted encourages the restoration of local transmission and load at a higher priority than reestablishing the interconnection. Restoring the interconnection is the highest priority. In the process of achieving that end, some, minimal restoration of local transmission will be involved. This is in direct conflict with the industry comments on V0 Standards which requires modifications to assign priority to the integrity of the interconnection. Changing the emphasis of R3 should be removed from the SAR. 3) R11.5- Placing local load restoration above re-establishing the interconnection. This follows the same argument addressed above. Restoration of the interconnection is a higher priority that the restoration of local load. R11.5 should be retained in the SAR. R6 mentions provideing training requirements however this training requirement is already in PER-002-R3.1. There is also a training requirement in PER-004 R4 for the RC requirement.
Independent Electricity System Operator	☑		This SAR updates EOP-005-0 and EOP-006-0 standards. The industry already approved EOP-005-1 & EOP-006-1. What will happen to those standards if this SAR is approved? Is this an oversight? A comment on the Compliance section of EOP-005. In EOP-005, Compliance, Section 1.4.1 - The intent of the phrase "critical load requirements" needs to be clarified. The phase can be interpreted as: (A) available and easily accessible loads to be restored for voltage control in network restoration on the bulk power system level. These are loads employed to expedite the restoration of the interconnection. (B) loads of importance to health/safety/national security - police, hospitals, govt. offices. These are really distribution loads that are restored once the interconnection is restored and the transmission system is rebuilt. (C) restoring off-site power to key transmission facilities.

Question #3			
Commenter	**Yes**	**No**	**Comment**
			We believe the intention of the phase is related to prioritization of load restoration at the local distribution level, and as such should be the very last item in any list of restoration planning and procedure. With regard to the Phase III/IV comments on EOP-005 Restoration Plans: 1) Locking the restoration to single, contractual cranking path. Flexibility is an essential element of a robust restoration plan. It impossible to define in advance what equipment will be available for service in the aftermath of a system collapse. The concept of an explicitly defined cranking path, locked into a restoration plan by contractual requirements, precludes flexibility. Identifying and communicating the coordination necessary to provide the intended cranking path is a valid aspect of restoration. This is included in the second bullet of the Phase III/IV comments. The fourth bullet of the Phase III/IV comments should be removed from the SAR. 2) R3- Placing emphasis on restoring local transmission. There is no need for the bullet regarding placing emphasis on restoring local transmission in R3. The recommendation as noted encourages the restoration of local transmission and load at a higher priority than reestablishing the interconnection. Restoring the interconnection is the highest priority. In the process of achieving that end, some, minimal restoration of local transmission will be involved. This is in direct conflict with the industry comments on V0 Standards which requires modifications to assign priority to the integrity of the interconnection. The need for changing the emphasis of R3 should be removed from the SAR. 3) R11.5- Placing local load restoration above re-establishing the interconnection. This follows the same argument addressed above. Restoration of the interconnection is a higher priority that the restoration of local load. R11.5 should be retained in the SAR. Comments on EOP-006 & EOP-007 Standards: EOP 006-1 R3 sates “The Reliability Coordinator shall have a Reliability Coordinator Area restoration

Question #3			
Commenter	**Yes**	**No**	**Comment**
			plan that provides coordination between individual Transmission Operator restoration plans and that ensures reliability is maintained during system restoration events." EOP 007 R1 states "Each Regional Reliability Organization shall establish and maintain a system BCP, as part of an overall coordinated Regional SRP…." Is it an acceptable practice for a Reliability Coordinator, in approving its Transmission Operator restoration plans per appropriate assessment criteria and ensuring they enable coordinated restoration with the interconnections, be deemed as an alternative to creating and maintaining regional plans? Otherwise the scope of such regional plans should be specified to limit their scale. Consider the large number of Transmission Operators (and restoration plans) in those Reliability Coordinator Areas with large footprints such as PJM, MISO and California ISO. The same consideration applies to a Regional Black Start Capability Plan as assessed by the Regional Reliability Organization. Given that black start is integral to system restoration how it is proposed to be handled in instances where the Reliability Coordinator Area differs from the RRO boundary? Additionally, EOP 006-1 should capture Reliability Coordinator to other Reliability Coordinator 'coordination'. Specifically, "Reliability Coordinators shall coordinate their system restoration plans and efforts together including joint participation in drills and exercises."
ISO New England			In EOP-5, Compliance, Section 1.4.1 -ISO New England requests clarification of the phrase "critical load requirements". The phase can be interpreted as: (A) available and easily accessible loads to be restored for voltage control in network restoration on the bulk power system level. (B) loads of importance to health/safety/national security - police, hospitals, govt. offices. These are really distribution loads that are restored once the interconnection is restored and the transmission system is rebuilt. (C) restoring off-site power to key transmission facilities. ISO New England believes that the mention of critical load should be replaced by the restoration of critical transmission and generation facilities necessary to restore load. With regard to the Phase III/IV comments on EOP-005 Restoration Plans: 1) Locking the restoration to single, contractual cranking path. Flexibility is an essential element of a robust restoration plan. It is impossible to define in advance what equipment will be available for service in the aftermath of a system collapse.

Question #3			
Commenter	**Yes**	**No**	**Comment**
			The concept of an explicitly defined cranking path, locked into a restoration plan by contractual requirements, precludes flexibility and is restrictive-further complicating what may be an intricate process. Identifying and communicating the coordination necessary to provide the intended cranking path is a valid aspect of restoration. This is included in the second bullet of the Phase III/IV comments. The fourth bullet of the Phase III/IV comments should be removed from the SAR. 2) R3 - Placing emphasis on restoring local transmission. There is no need for the bullet on R3. The recommendation as noted encourages the restoration of local transmission and load at a higher priority than reestablishing the interconnection. Restoring the interconnection is the highest priority. In the process of achieving that end, some, restoration of local transmission will be involved. This is in direct conflict with the industry comments on V0 Standards which requires modifications to assign priority to the integrity of the interconnection. Changing the emphasis of R3 should be removed from the SAR. 3) R11.5 - Placing local load restoration above re-establishing the interconnection. This follows the same argument addressed above. Restoration of the interconnection is a higher priority that the restoration of local load. R11.5 should be retained in the SAR. R6 mentions providing training requirements, however this training requirement is already in PER-002-R3.1. There is also a training requirement in PER-004 R4 for the RC requirement. Duplication should be avoided and training requirements should be included in a training standard.
NSTAR Electric			In EOP-5, Compliance, Section 1.4.1 -NSTAR Electric requests clarification of the phrase "critical load requirements". The phase can be interpreted as: (A) available and easily accessible loads to be restored for voltage control in network restoration on the bulk power system level. (B) loads of importance to health/safety/national security - police, hospitals, govt. offices. These are really distribution loads that are restored once the interconnection is restored and the transmission system is rebuilt. (C) restoring off-site power to key transmission facilities. NSTAR Electric believes that the mention of critical load should be replaced by the restoration of critical transmission and generation facilities necessary to restore load.

Question #3			
Commenter	**Yes**	**No**	**Comment**
			With regard to the Phase III/IV comments on EOP-005 Restoration Plans: 1) Locking the restoration to single, contractual cranking path. Flexibility is an essential element of a robust restoration plan. It is impossible to define in advance what equipment will be available for service in the aftermath of a system collapse. The concept of an explicitly defined cranking path, locked into a restoration plan by contractual requirements, precludes flexibility and is restrictive-further complicating what may be an intricate process. Identifying and communicating the coordination necessary to provide the intended cranking path is a valid aspect of restoration. This is included in the second bullet of the Phase III/IV comments. The fourth bullet of the Phase III/IV comments should be removed from the SAR. 2) R3 - Placing emphasis on restoring local transmission. There is no need for the bullet on R3. The recommendation as noted encourages the restoration of local transmission and load at a higher priority than reestablishing the interconnection. Restoring the interconnection is the highest priority. In the process of achieving that end, some, restoration of local transmission will be involved. This is in direct conflict with the industry comments on V0 Standards which requires modifications to assign priority to the integrity of the interconnection. Changing the emphasis of R3 should be removed from the SAR. 3) R11.5 - Placing local load restoration above re-establishing the interconnection. This follows the same argument addressed above. Restoration of the interconnection is a higher priority that the restoration of local load. R11.5 should be retained in the SAR. R6 mentions providing training requirements, however this training requirement is already in PER-002-R3.1. There is also a training requirement in PER-004 R4 for the RC requirement. Duplication should be avoided and training requirements should be included in a training standard.
NPCC CP9 Reliability Standards Working Group			In EOP-5, Compliance, Section 1.4.1 -NPCC requests clarification of the phrase "critical load requirements". The phase can be interpreted as: (A) available and easily accessible loads to be restored for voltage control in network restoration on the

Question #3			
Commenter	**Yes**	**No**	**Comment**
			bulk power system level. These are loads employed to expedite the restoration of the interconnection. (B) loads of importance to health/safety/national security - police, hospitals, govt. offices. These are really distribution loads that are restored once the interconnection is restored and the transmission system is rebuilt. (C) restoring off-site power to key transmission facilities. NPCC Participating members believe that the mention of critical load should be replaced by the restoration of critical transmission and generation facilities necessary to restore load. With regard to the Phase III/IV comments on EOP-005 Restoration Plans: 1) Locking the restoration to single, contractual cranking path. Flexibility is an essential element of a robust restoration plan. It is impossible to define in advance what equipment will be available for service in the aftermath of a system collapse. The concept of an explicitly defined cranking path, locked into a restoration plan by contractual requirements, precludes flexibility and is restrictive-further complicating what may be an intricate process. Identifying and communicating the coordination necessary to provide the intended cranking path is a valid aspect of restoration. This is included in the second bullet of the Phase III/IV comments. The fourth bullet of the Phase III/IV comments should be removed from the SAR. 2) R3- Placing emphasis on restoring local transmission. There is no need for the bullet on R3. The recommendation as noted encourages the restoration of local transmission and load at a higher priority than reestablishing the interconnection. Restoring the interconnection is the highest priority. In the process of achieving that end, some, minimal restoration of local transmission will be involved. This is in direct conflict with the industry comments on V0 Standards which requires modifications to assign priority to the integrity of the interconnection. Changing the emphasis of R3 should be removed from the SAR. 3) R11.5- Placing local load restoration above re-establishing the interconnection. This follows the same argument addressed above. Restoration of the interconnection is a higher priority that the restoration of local load. R11.5 should be retained in the SAR.

Question #3			
Commenter	**Yes**	**No**	**Comment**
			R6 mentions providing training requirements however this training requirement is already in PER-002-R3.1. There is also a training requirement in PER-004 R4 for the RC requirement.
Response: We feel that the comments made are applicable to the standards effort and that the SAR contains sufficient flexibility to allow the SDT to address them at the appropriate time.			
MISO Emergency Preparedness and System Restoration Working Group	☑		Regional Reliability Organizations (RRO's) do not have an active role in Emergency Operations, the applicability of EOP - 007 for RRO's is questionable. The requirements in EOP-007 should be applicable to the Reliability Coordinator function as it has the responsibility of maintaining integrity of the Bulk Electric System over a wide area and must coordinate its activities with its neighboring Reliability Coordinators.
Response: We agree with the comment and the revised SAR reflects this.			
Dominion Virginia Power	☑		The existing standards (and the Functional Model) do not address the role of the Transmission Owner in system restoration. For example, assessment of the extent of isolation of a storm-ravaged system usually requires "boots on the ground" if normal data/voice communications are disrupted. Also, assessments of transmisssion asset damge requires visual inspections. Typically, it is Transmission Owner personnel who perform these assessments and inspections. Also, the repair of damaged transmission facilities and the determination of the readiness of those facilities to be re-energized is the responsibility of the asset owner. A determination of readiness for re-energization usually involves a re-examination of facility limits, calculation of short-circuit current availability, and an evaluation of protective relaying viability given the abnormal system topologies that can result from a major storm. These are typically Transmission Owner responsibilities. Transmission Owners have restoration plans to ensure that they are ready and able to perform these vital restoration tasks.
Response: We do not believe that the TO has an obligation for system restoration. Repair of facilities is beyond the scope of system restoration in these standards. It is a business obligation for the asset owner. We believe that the responsible entity for system restoration as defined here is the TOP and that the TOP will coordinate with whatever parties it needs to in order to accomplish its assigned responsibilities.			
Southern Company Services, Inc.	☑		Some items that need to be considered is that in some of the comments it recommends "Add a requirement for..". Does this mean the standards drafting team must add a requirement or just have to consider adding the requirement and only do so if they think it is the right thing to do? Another example can be found in the scope section. The following statement is made: "EOP-005 only requires the Transmission Operator and the Balancing Authority to have a system resoration plan - the Reliability Coordinator does not have any requirement to have a system restoration plan." That is all that is said about it. Does this compel the standards drafting team to add a requirement for the Reliability Coordinator? Or does it merely mean that the SDT should consider adding a requirement? These examples need to be clear to the drafting team.
Response: The scope of the SAR is designed to provide the SDT with sufficient flexibility to address all necessary revisions. Work is not to be limited to the 'To Do List', nor are the items identified there mandatory revisions. We do believe that the RC does have a role in restoration planning. The SAR DT believes that at a minimum there should be coordination between the various parties.			
Progress Energy Carolinas	☑		

Question #3			
Commenter	**Yes**	**No**	**Comment**
			EOP-005: 1. Requirements in EOP-005 should include a defintion of "periodically." We would recommend a periodicity of annually to coincide with annual requirement to review and update the restoration plan at least annually. 2. R3 could be rolled into R1. EOP-006: The SAR indicates actions should be defined for R6. The actions taken to restore normal operations would depend on the operating emergency. Prescriptive actions should be avoided.
Response: We feel that the comments made are applicable to the standards effort and that the SAR contains sufficient flexibility to allow the SDT to address them at the appropriate time.			
Xcel Energy – NSP	☑		Additional Standards that make reference to System Restoration Plans (e.g. EOP-001) should be reviewed and such references be removed from those standards as they are redundant, distracting, and provide no additional support to these standards being addressed in this SAR.
Response: Changes to other standards such as EOP-001 can be identified and passed on to the appropriate drafting team(s).			
Manitoba Hydro			EOP-005-0 and -1 Applicability - This should apply to Reliability Coordinators as well as TOs and BAs. R1 (-0 + -1) - As part of integrating the appendix items into the requirements section the last sentence of R1 could be eliminated. R5 (-0 + -1) - I think the testing period of the telecommunications systems should be defined as well as the type of testing that needs to be done. If auditors start asking questions about tests that are not defined or required its not fair to the entity being audited if they haven't performed that particular test. It should also be identified if main or backup systems need to be tested or if there should be backup systems. R6 (-0 + -1) - Reliability Coordinator needs to be included in the training of personnel as part of this standard. Also the type of training needs to be defined (simulations, table top exercises), and the base topics to be trained on (philosophy, building of islands, blackstart) should be defined. R7 (-0 + -1) - The type of testing or simulations should be defined; should dynamic stability studies, as well as voltage and frequency studies be done on the restoration plans or is running a simulation sufficient, unfortunately a simulation doesn't give you a complete enough evaluation. R8 (-0) - availability and location aren't enough to ensure the blackstart units can do the job, you also have to ensure the capability of the units and the number of units are sufficient to blackstart. Testing and studies need to be done to ensure the units can accomplish the task. R8 (-1) - Verification should be done by dynamic, voltage and frequency studies. Verification that the blackstart units are capable should be included with the "number, size, and location". The RRO isn't included in the Applicability section yet is looks like its their plan that the TO should be meeting instead of meeting the TO plan.

Question #3			
Commenter	**Yes**	**No**	**Comment**
			R9 (-1) - Its not clear as to which units this requirement is refering to, is it refering to a remote blackstart unit or other units on the system that need to be started as part of restoring the system? R9.4 (-0) and R11.4 (-1) - For systems that have nuclear stations it should be made a part of their plans to give restoration of off-site power to the plants a high priority. R9.5.1 (-0) and R11.5.1 (-1) - When tying two islands together the emphasis should be on minimizing the flow through the tie point once synched and closed rather than when voltage, frequency and phase angle permit. The resultant flow could be greater than expected if the system operator simply relies on the relaying to allow closing. Special attention should be paid to frequency and voltage when tying islands and bringing them as close as possible together prior to closing. R9.5.4 (-0) and R11.5.4 (-1) - Typically is not the surrounding areas that require shedding of load to reconnect. The surrounding areas usually means the stable or larger of areas meaning frequency in the surrounding areas should be good to start with. It's the area that want to synch that should be adding generation or shedding load to be able to synch with the surrounding areas. R10 (-1) - The word simulation comes up again, it should be defined what simulation is or whether its really refering to studies as done by system performance such as dynamic stability studies. C. Measures (-1) M1. - Should read studies instead of simulations. D. Compliance, 1.1.1 (-0) and 1.4.1 (-1) - its not clear what is meant by "identification of critical requirements", is it just identifying where critical loads exist so they can be brought on as part of the restoration process or do the voltage and frequency requirements of each critical load have to be identified as part of the restoration plan. 1.4.6 (-1) - the units to be started should be clarified. 1.4.7 (-1) - should refer to the TO retoration plan. If the reagional plan is included there needs to be a requirement to share the regional plan with the TOs. Attachment 1-EOP-005-0 and attachment EOP-005 - 3. - It would be impractical to have a plan for every possibility. 6. - Should this not fall under the dynamic type studies done by engineering studies personnel. To what extent should plans be simulated or tested? EOP-006-0 and -1 R1 (-0) and (-1) - The RC should be more than just aware, the Reliability Coordinator's system restoration plan should coordinate with the TO's plan so the RC should thoroughly knowledgable with the TO plans. R5 (-0) and (-1) - "major system islands" needs to be defined, at what point the RC gets involved needs to be clear. They don't necessarily need to be involved with the location of the synchronization point (the TOs should be aware of where they can synchronize). EOP-007-0 R1.2 - Simulation doesn't give the dynamic response the proper studies can give (ie; dynamic stability studies, voltage and frequency studies).

Question #3			
Commenter	**Yes**	**No**	**Comment**
			R1.3.1 - What if it's the same one third that gets tested each year, the remaining two thirds may not be usable when the time comes to do a real restoration. You can't assume that each year a different one third will be tested. Also in order to provide training to plant personnel testing all blackstart units each year will ensure more plant operators are trained in the procedure. R1.3.2 - this needs to be more specific as to the type of testing required. Footer 1 - this should be included in the requirements section. EOP-009-0 R1 - Besides the RRO the TO has blackstart requirements that need to be met.
Response: We feel that the comments made are applicable to the standards effort and that the SAR contains sufficient flexibility to allow the SDT to address them at the appropriate time. We do believe that the RC does have a role in restoration planning. The SAR DT believes that at a minimum there should be coordination between the various parties.			
Ameren			The VRF comments to EOP-005-1 are confusing. It is not certain to what these comments refer.
Response: We feel that the comments made are applicable to the standards effort and that the SAR contains sufficient flexibility to allow the SDT to address them at the appropriate time.			
Midwest ISO, Inc.			This does not appear to be a yes-no question and may be an indication of the haste in putting this together. There are some good things mentioned in the SAR (better training, involvement of LSEs and Generators, etc.), but it appears this may well get out of control. The intent is to prepare for restoration, not to add scores of administrative requirements. We are concerned about the suggestion to have "blackstart agreements " and "cranking path agreements". Since we don't know how an event will evolve or propogate, restoration plans should be heavy on philosophy, simple to manage once implemented, and not overly prescriptive in detail. It appears this is going down a path to create a reference that will be used to second-guess operators after the fact when conditions require deviation from their plan.
Response: The SAR DT thanks you for your comment and agrees that these are legitimate concerns.			
Entergy Services, Inc.			EOP-005 -? Should version 1 be the version subject to review and update? R1 - is the "loss of vital communications" necessary? This seems redundant to COM-001 R2 - the comment about correcting deficiencies during simulation exercises seems out of place. R3 - how is "coordination" defined? R10 & 10.1 - does this include testing of the generators as specified in EOP-009? Is it the same? Need clarification on this. VRFs need to be revisited. The proposed VRFs on the current ballot for thie Standards have administrative tasks rated as HIGH. EOP-007-0 This standard contain requirements for a BCP that outlines blackstart unit testing requirements. Blackstart unit testing requirements should not be spread across several EOPs. Consolidate, Consider merging EOP-007 and 009, and the blackstart unit testing portions of EOP-005.

Question #3			
Commenter	**Yes**	**No**	**Comment**
			EOP-009-0 See comments above.
Response: The SAR will be amended to state that the current standards will be reviewed. We feel that the comments made are applicable to the standards effort and that the SAR contains sufficient flexibility to allow the SDT to address them at the appropriate time.			
ITC Transmission			No comment.
TXU Electric Delivery Company			No comment.
Public Service Commission of SC			None identified.
Entergy Services, Inc.			No additional revisions at this time.
American Electric Power			None identified at this time.
Kansas City Power & Light Company			No comment.

Attachment C

Standard Authorization Request Form

Title of Proposed Standard Project 2006-03	Revisions to System Restoration and Blackstart Standards
Request Date	~~October 26, 2006~~January 18, 2007

SAR Requestor Information		**SAR Type** (*Check a box for each one that applies.*)	
Name	Richard J Kafka	☐	New Standard
Primary Contact	Richard J Kafka	☒	Revision to existing Standards EOP-005, EOP-006, EOP-007, EOP-009
Telephone Fax	(301) 469-5274 (301) 469-5235	☒	Withdrawal of existing Standard
E-mail	rjkafka@pepcoholdings.com	☐	Urgent Action

Purpose (Describe the purpose of the standard — what the standard will achieve in support of reliability.)

EOP-005-1 — System Restoration Plans
EOP-006-1 — Reliability Coordination - System Restoration
EOP-007-0 — Establish, Maintain, and Document a Regional Blackstart Capability Plan
EOP-009-0 — Documentation of Blackstart Generating Unit Test Results

The purpose of revising the above four 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, are clearly defined; the purpose, requirements, and measures are results-focused and unambiguous; the consequences of violating the requirements are clear.
3. ~~Incorporate~~Consider other general improvements described in the standards development work plan. (See attachments)
4. Consider stakeholder comments received during the initial development of the standards and other comments received from Electric Reliability Organization (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 (Provide a detailed statement justifying the need for the proposed standard, along with any supporting documentation.)

When all else fails, the bulk power system requires a clearly defined and comprehensive set of standards to ensure the ability to successfully restore the integrity of the system. The existing standards lack specificity and measures to guide the industry in a consistent and reliable manner for system restoration.

EOP-005 ~~is~~was a Version 0 standard that was modified to add some requirements that were translated from the Phase III & IV measures thus creating a -1 version standard; EOP-006 is a -1 standard as of January 1, 2007~~,~~; EOP-007, and EOP-009 are Version 0 standards. As the ~~e~~Electric ~~r~~Reliability ~~o~~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~~ current standards ~~and the translation of Phase III & IV planning measures~~, 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~~ Version 0 standards, Phase III & IV standards, and recent updates were put in place as a temporary starting point to start up the ~~e~~Electric ~~r~~Reliability ~~o~~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 Phase III & IV translations.

In addition, FERC indicated it will not propose to accept or remand EOP-007-0, as it applies only to regional reliability organizations.

Brief Description (Describe the proposed standard in sufficient detail to clearly define the scope in a manner that can be easily understood by others.)

This project involves reviewing and revising ~~upgrading the requirements in~~ the four referenced standards including~~.~~:

- Resolving the issue of associating compliance measures with Attachment 1-EOP-005 elements, ~~Industry debate is needed over the contents of Attachment 1 in EOP-005. The attachment includes a list of elements that must be contained in a system restoration plan, 'if applicable'. The elements in the attachment need to be reviewed and the conditions under which an entity is exempt from including an element in its system restoration plan need to be specified. If possible, the required elements should be removed from the attachment and included in the body of the requirements.~~

- EOP-005 only requires the ~~Transmission Operator~~TOP and the ~~Balancing Authority~~ BA to have a system restoration plan. The role of these and other entities, especially the Reliability Coordinator, needs to be defined.~~ the Reliability Coordinator does not have any requirement to have a system restoration plan.~~

- Both EOP-005 and EOP-006 contain a mix of requirements that address advance planning and real-time operations. The Standards Drafting Team (SDT) should consider the need to clearly delineate the two processes within the standards requirements.

- ~~These need to be carefully reviewed to ensure that the lines of authority clarified under the Reliability Coordination (Project 2006-03) and Real Time Transmission Operations and Balancing of Load and Generation (Project 2007-03) are fully supported in the refinement of this set of standards.~~

- The elimination of ~~EOP-007 and EOP-009 have some~~ 'fill-in-the-blank' components ~~to eliminate~~in EOP-007-0 and EOP-009.

- ~~The development may include o~~Other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable standards~~,~~ and consistent with establishing technically sufficient bulk power system blackstart and ~~reliability s~~restoration standards.

Work is not to be limited to the 'To Do Lists'. Those items shall be considered but are not mandatory revisions.

Throughout the process, the SDT should identify any conflicts that are found with other existing standards and bring them to the attention of the Standards Committee for resolution.

Reliability Functions

The Standard will Apply to the Following Functions *(Check box for each one that applies.)*		
☒	Reliability ~~Authority~~Coordinator	~~Ensures the reliability of the bulk transmission system within its Reliability Authority area. This is the highest Reliability Authority.~~ Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
☒	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within its metered boundary and supports system frequency in real time.
☐	Interchange Authority	~~Authorizes valid and balanced Interchange Schedules.~~ Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
☒	Planning ~~Authority~~Coordinator	~~Plans the Bulk Electric System.~~ Assesses the longer-term reliability of its Planning Coordinator Area.
☐	Resource Planner	Develops a ~~long-term~~ (>one year) plan for the resource adequacy of its specific loads within its portion of a Planning ~~Authority~~Coordinator area.
☐	Transmission Planner	~~Develops a long-term (>one year) plan for the reliability of transmission systems within its portion of the Planning Authority area.~~ Develops a (>one year) plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
☒ ~~☐~~	Transmission Service Provider	~~Provides transmission services to qualified market participants under applicable transmission service agreements~~ Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
☒ ~~☐~~	Transmission Owner	Owns and maintains transmission facilities.
☒	Transmission Operator	~~Operates and maintains the transmission facilities, and executes switching orders.~~ Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
☒	Distribution Provider	~~Provides and operates the "wires" between the transmission system and the customer.~~ Delivers electrical energy to the End-use customer.
☒	Generator Owner	Owns and maintains ~~generation unit(s)~~ generating facilities.
☒	Generator Operator	Operates generation unit(s) to provide real and reactive power.~~Operates generation unit(s) and performs the functions of supplying energy and Interconnected Operations Services.~~

☐	Purchasing-Selling Entity	~~The function of purchasing or selling energy, capacity, and all necessary Interconnected Operations Services as required.~~ Purchases or sells energy, capacity, and necessary reliability-related services as required.
☐	Market Operator	~~Integrates energy, capacity, balancing, and transmission resources to achieve an economic, reliability-constrained dispatch.~~ Interface point for reliability functions with commercial functions.
☒	Load-Serving Entity	Secures energy and transmission service (and related ~~generation~~ reliability-related services) to serve the ~~end user~~End-use Customer.

Reliability and Market Interface Principles

Applicable Reliability Principles *(Check box for all that apply.)*	
☒	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.
☐	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.
☐	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.
☒	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
☐	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
☐	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
☐	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? *(Select 'yes' or 'no' from the drop-down box.)*
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

Related Standards

Standard No.	Explanation
PER-002	Applicable personnel must be trained in restoration and blackstart procedures.
EOP-001	R3.4 may be redundant after this project is completed.

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

Standard Review Form Project 2006-03 System Restoration and Blackstart		
Standard #	**EOP-005-0**	**Comments**
Title	System Restoration Plans	Okay
Purpose		Okay
Applicability		Okay
Requirements	*Conditions*	Interconnection is capitalized.
	Who?	Okay
	Shall do what?	R2 mentions simulated exercises – where did that come from? R3 – isn't this a function of the extent of the outage? R5 – define periodically R6 – provide training requirements R8 – how do you verify? R115.2 – what does considered mean R11.5.3 – depends on extent
	Result or Outcome	Missing
Measures		2 M for 11 R
To Do List	FERC NOPR o Include Measures; and o Identify time frames for training and review of restoration plan requirements to simulate contingencies and prepare operators for anticipated and unforeseen events. FERC staff report o Periodicity of training o Lack of Measures Regional Fill-in-the-Blank Team Comments o Drafting team should address EOP-005, EOP-006 EOP-007 and EOP-009 concurrently. Primarily, references in EOP-005, EOP-006, and EOP-009 to meet RRO/Regional requirements need to be modified and EOP-007 needs to be more specific. o See notes for EOP-007 V0 Industry Comments o Priority to integrity of interconnection o BA does not have all required information o Interdependency of planning and implementation missing as well as between functional entities o LSE & GO should have plans o Additional element consideration o Can't really test plan Phase III/IV comments o Add LSEs to Applicability o Add a requirement for a blackstart agreement between the transmission operator and the generator owner - include items such as identification of generator owner/operator facilities required to participate in the blackstart plan; when and how quickly a blackstart unit must respond; and what cranking path requires energization o Add a requirement for a cranking path agreement between the transmission operator and the generator owner/operator o Condense the requirements and measures - R1 the requirement to develop the restoration plan and all the components required of that plan; and R2 the requirement to prove and document that the plan	

	works. Then, two measurements would follow: one to assess the contents of the plan and one to assess the simulation or testing of the plan. o Need to resolve the issue of the elements on the Attachment – are these mandatory or not – there is a mismatch between R1 and levels of non-compliance o R3 – revise to place emphasis for TOP on restoring local transmission system as preparation for restoring the integrity of the Interconnection. o R4 – Add LSEs o R5 – replace 'periodic' with a specific periodicity for testing o R6 – add specificity to frequency and scope of required training o R11.5 - replace the word, 'may' with: The affected Transmission Operators shall not resynchronize the isolated area(s) with the surrounding area(s) until the following conditions are met: the voltage, frequency, and phase angle permit, the affected reliability coordinator(s) and the adjacent areas are notified, and reliability coordinator approval is given. o Delete R11.5.4. It does not seem reasonable or logical for a control area to be required to shed 5,000 MWs of load, for example, in order for their neighbor to reconnect 1,000 MWs of their own load. o R11.5. Should exclude islands within a system that do not affect surrounding areas VRF comments o R1, 5 & 8 – Does not just apply to local restoration o R2 – Could be broken up into 2 requirements o R11.4 – Ambiguous o R11.5 - This needs to be looked at for 30 days - should be done prior to access being granted.

Standard Review Form Project 2006-03 System Restoration and Blackstart		
Standard #	**EOP-006-0**	**Comments**
Title	Reliability Coordination – System Restoration	Okay
Purpose		Don't need names. Interconnection is capitalized.
Applicability		Okay
Requirements	*Conditions*	Okay
	Who?	Okay
	Shall do what?	R5 – burden is capitalized R6 – define actions
	Result or Outcome	Missing
Measures		Addressed by CESDT.
To Do List	FERC NOPR o Require that the reliability coordinator be involved in the development and approval of restoration plans; and o Include Measures and Levels of Non-Compliance FERC staff report o RC should be involved in approving TO & BA plans o Expect new standard in November Regional Fill-in-the-Blank Team Comments o Drafting team should address EOP-005, EOP-006 EOP-007 and EOP-009 concurrently. Primarily, references in EOP-005, EOP-006, and EOP-009 to meet RRO/Regional requirements need to be modified and EOP-007 needs to be more specific. o See notes for EOP-007	
Misc. Items		Compliance not specified but appears in CESDT version

Standard Review Form Project 2006-03 System Restoration and Blackstart		
Standard #	**EOP-007-0**	**Comments**
Title	Establish, Maintain, and Document a Regional Blackstart Capability Plan	Too long
Purpose		Need benefit or value proposition.
Applicability		Need to check applicability for RRO as per SAR.
Requirements	*Conditions*	Okay
	Who?	Okay
	Shall do what?	R1.1 – quicker if unit status changes
	Result or Outcome	Missing
Measures		M1 – need to spell out measures M2 – define evidence
To Do List	FERC NOPR o Commission will not propose to accept or remand EOP-007-0, as it applies only to regional reliability organizations. FERC staff report o Appropriateness of RRO questioned Regional Fill-in-the-Blank Team Comments o R1 & R2 considerations V0 Industry Comments o Clarify testing requirements	
Misc. Items		Question reasonability of simulation as proof of capability.

Standard Review Form Project 2006-03 System Restoration and Blackstart		
Standard #	**EOP-009-0**	**Comments**
Title	Documentation of Blackstart Generating Unit Test Results	'Documentation of' could probably be dropped.
Purpose		Title and purpose do not align. Same purpose as EOP-008.
Applicability		Need to check applicability for GO & GOP as per SAR.
Requirements	*Conditions*	Okay
	Who?	Okay
	Shall do what?	R1 – do we need MW values? R2 – within how many days?
	Result or Outcome	Missing
Measures		M1 only applies to R2 and needs to define evidence.
To Do List	FERC NOPR o No changes identified. FERC staff report o Lack of periodicity for testing Regional Fill-in-the-Blank Team Comments o Region mentioned in Requirements V0 Industry Comments o Distinction between RA & TO vs. RRO for test results	

Questions for 2nd Posting

1. Do you agree with the revised scope of the proposed SAR?
2. The SAR DT has checked off a large number of responsible entities as being applicable entities. We have done this in order to provide sufficient flexibility to the eventual SDT and due to the fact that system restoration and blackstart can potentially touch so many different functional areas of operations.
    a. Do you agree that the TOP should be responsible for securing blackstart services?
    b. Do you agree that a Generator Owner and/or Generator Operator should have a documented plan for non-blackstart units to be restarted after a blackout?
3. Do you agree that the SAR is ready to move forward to the standards drafting stage?