Standard Authorization Request Form

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

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

EOP-005 — System Restoration Plans
EOP-006 — Reliability Coordination - System Restoration
EOP-007 — Establish, Maintain, and Document a Regional Blackstart Capability Plan
EOP-009 — 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 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 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.)

EOP-005 is a Version 0 standard that was modified to add some requirements that were translated from the Phase III & IV measures; EOP-006, EOP-007, and EOP-009 are Version 0 standards. As the electric reliability organization begins enforcing compliance with reliability standards under Section 215 of the Federal Power Act in the United States and applicable statutes and regulations in Canada, the industry needs a set of clear, measurable, and enforceable reliability standards. The Version 0 standards 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 standards, Phase III & IV standards, and recent updates were put in place as a temporary starting point to start up the electric reliability organization and begin enforcement of mandatory standards. However, it is important to update the standards in a timely manner, incorporating improvements to make the standards more suitable for enforcement and to capture prior recommendations that were deferred during the Version 0 and 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 upgrading the requirements in the four standards. 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 and the Balancing Authority to have a system restoration plan – 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. 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.

EOP-007 and EOP-009 have some 'fill-in-the-blank' components to eliminate.

The development may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable, and technically sufficient bulk power system reliability standards.

Reliability Functions

The Standard will Apply to the Following Functions *(Check box for each one that applies.)*		
☒	Reliability Authority	Ensures the reliability of the bulk transmission system within its Reliability Authority area. This is the highest Reliability Authority.
☒	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.
☒	Planning Authority	Plans the Bulk Electric System.
☐	Resource Planner	Develops a long-term (>one year) plan for the resource adequacy of specific loads within a Planning Authority area.
☐	Transmission Planner	Develops a long-term (>one year) plan for the reliability of transmission systems within its portion of the Planning Authority area.
☐	Transmission Service Provider	Provides transmission services to qualified market participants under applicable transmission service agreements
☐	Transmission Owner	Owns transmission facilities.
☒	Transmission Operator	Operates and maintains the transmission facilities, and executes switching orders.
☒	Distribution Provider	Provides and operates the “wires” between the transmission system and the customer.
☒	Generator Owner	Owns and maintains generation unit(s).
☒	Generator Operator	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.
☐	Market Operator	Integrates energy, capacity, balancing, and transmission resources to achieve an economic, reliability-constrained dispatch.
☒	Load-Serving Entity	Secures energy and transmission (and related generation services) to serve the end user.

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

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	