



**Report on the
FERC-NERC-Regional
Entity Joint Review of
Restoration and Recovery
Plans**

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Disclaimer

This report was prepared by the staff of the Federal Energy Regulatory Commission in consultation with staff from the North American Electric Reliability Corporation and its Regional Entities. This report does not necessarily reflect the views of the Commission.



Objective

- To assess and verify the electric utility industry's bulk power system recovery and restoration planning, and to test the efficacy of related Reliability Standards in maintaining and advancing reliability in that respect.



Joint Staff Review Team Process

- Reviewed plans from representative sample of nine registered entities with significant bulk power system responsibilities
 - Step 1: Gained understanding of plans
 - Step 2: Identified strengths and shortcomings
 - Step 3: Performed assessment of relevant Standards (using results from Steps 1 and 2)
 - Step 4: Formed recommendations to improve reliability



Standards Assessed

- EOP-005-2 - System Restoration from Blackstart Resources
- CIP-008-3 - Cyber Security - Incident Reporting and Response Planning
- CIP-009-3 - Cyber Security - Recovery Plans for Critical Cyber Assets



Findings

- Participants had thorough and highly-detailed system restoration plans
- Participants had extensive cyber security response and recovery plans covering majority of the response and recovery stages



Recommended Changes, Including Considering Standards Changes

- Address restoration plan re-verification, when a system change precipitates need to ensure that the plan steps when implemented, will operate reliably.
- Address restoration plan updating for *all* system modifications that would change plan implementation for an extended period of time.
- Address the transition of operation to Balancing Authority in system restoration training.



Recommended Changes, Including Considering Standards Changes

- Address cyber security response and recovery plan designation of accountability at the cyber asset level.
- Address in response plans, details on types of cyber security events that trigger response.
- Address use of advanced tools and cyber security expertise for cyber event monitoring and response.
- Address inventory assumptions risk in critical cyber asset recovery plans.



Recommended Joint Follow-on Studies

- Planning restoration with loss of SCADA
- Recent blackstart resource changes
- Use of DC facilities in system restoration
- Blackstart testing under anticipated conditions
- Response and recovery plan updating following testing or actual cyber events



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<http://www.ferc.gov/media/news-releases/2016/2016-1/01-29-16.asp>

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