

July 5, 2012

Joseph H. McClelland
Director, Office of Electric Reliability
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Re: Report on Outages and Curtailments during the Southwest Cold Weather Event of February 1-5, 2011: Docket No. AD11-9-000

Dear Mr. McClelland:

This letter is submitted in response to the Federal Energy Regulatory Commission (“FERC” or the “Commission”) Office of Electric Reliability’s (“OER”) letter dated June 20, 2012 to Gerry Cauley regarding the status of Recommendation 11 included in the August 16, 2011 joint report issued by FERC and the North American Electric Reliability Corporation (“NERC”) on the rolling blackouts and natural gas curtailments experienced in the Southwest during the February 2011 cold weather event (“Cold Weather Event”). OER’s letter requested a status update on NERC’s initiative to modify the Reliability Standards to address winterization and related issues, including progress made on the development of the Standard Authorization Request (“SAR”), and an anticipated timeline for filing with the Commission any proposed new or revised Reliability Standards.

OER’s letter cites to Recommendation 11 in the joint report, which includes the following assessment:

NERC staff has concluded there would be a reliability benefit from amending the EOP Reliability Standards to require Generator Owner/Operators to develop, maintain, and implement plans to winterize plants and units prior to extreme cold weather, in order to maximize generator output and availability. Accordingly, NERC intends to submit a Standard Authorization Request, the first step in the Reliability Standards development process, proposing modifications to the Reliability Standards for Emergency Preparedness and Operations.

NERC has been working diligently on the recommendations in the joint report. While OER’s letter specifically requests a status of NERC’s efforts on Recommendation 11, NERC has been working to address the issues raised in the report through a combination of initiatives, including lessons learned, bulletins, and possible Reliability Standards modifications. NERC’s responses to the joint report are summarized below:

- A SAR has been submitted and is on the agenda for the July 2012 meeting of the Standards Committee for consideration and prioritization. The Standards Committee will determine how to prioritize the SAR within the NERC Reliability Standards Development Process. At that point, NERC will be able to better assess the timeline for completing a draft Reliability Standard, including when a draft standard could be presented to the Commission for approval. A copy of the SAR is attached as **Exhibit A**.
- NERC has issued seven (7) lessons learned and will issue additional lessons learned and advisory bulletins addressing Cold Weather this fall. These lessons detail corrective actions entities have implemented to prevent reoccurrence of the issues they experienced during the event. These lessons learned are available at <http://www.nerc.com/page.php?cid=5|393>. Advisory bulletins will be published in the fall during the fall maintenance cycle to remind entities of the importance of implementing the recommendations outlined in the joint report. These advisory bulletins will also reinforce some of the previous published lessons learned.
- NERC staff and FERC staff are also planning to conduct follow-up onsite assessments in the fall of 2012 – prior to the next winter season. The purpose of these assessments is to meet with entities impacted by the storm and discuss how they have implemented and institutionalized the recommendations from the report. NERC will take next steps based on information learned at these assessments, which may include the issuance of more lessons learned, bulletins, and information that can be used to inform the standards development process.
- NERC has participated in various regional and external workshops and presented information regarding the event and the recommendations.
- NERC held an industry-wide webinar to discuss the event and recommendations. A representative from Florida Power and Light shared weatherization efforts of entities in the southern tier of the United States. The presentation can be found at the same link included above, under webinars and information.
- On November 9, 2011 FERC OER staff requested three NERC Regional Entities to conduct a survey of the impacted entities – requesting data and information on how they have implemented the recommendations from the event. All three NERC Regional Entities responded with the requested information on December 9, 2011. These responses were filed in FERC Docket No. AD11-9-000.

- Finally, with respect to the recommendations in the report, each recommendation has been reviewed by a group of industry representatives from across the southeast. That group is currently formulating their table of responses that will be used to inform the comprehensive response to the Cold Weather Event, to provide input to any standards drafting team that is formed, and for any non-standards related response. A draft copy of the notes from their most recent meeting is attached as **Exhibit B**.

Please contact me with additional questions.

/s/ Herb Schrayshuen

Herb Schrayshuen

Vice President and Director, Standards and Training

North American Electric Reliability Corporation

CC: Gerry Cauley
Charles A. Berardesco

Exhibit A

Standard Authorization Request Form

Request Date: July 3, 2012	
SAR Requester Information	SAR Type (Check a box for each one that applies.)
Individual, Group, or Committee Name Salt River Project Electric Reliability Compliance Department	<input checked="" type="checkbox"/> New Standard <input type="checkbox"/> Transmission Equipment Weatherization
Primary Contact (if Group or Committee) Sara McCoy	<input checked="" type="checkbox"/> Revision to existing Standard <input type="checkbox"/> EOP-001-0 <input type="checkbox"/> TOP-002-3 <input type="checkbox"/> MOD-25-2
Company or Group Name Salt River Project	<input type="checkbox"/> Withdrawal of existing Standard
E-mail \$ERC@Srpnet.Com	<input type="checkbox"/> Project Identified in Reliability Standards Development Plan (Project Number and Name:)
Telephone 602 236 3941	<input checked="" type="checkbox"/> Modification to NERC Glossary term or addition of new term

Brief Description of Proposed Standard Modifications/Actions (In three sentences or less, summarize the proposed actions a drafting team will be responsible for implementing.)

Standards EOP-001-0, TOP-002-3 and MOD-025-2, require an additional definition and clarification of reporting requirements to ensure that BAs and TOPs have a complete set of data concerning availability of generation facilities in order to effectively plan and manage the resources available to reliably meet load requirements under both normal and extreme weather conditions. In particular, further specificity is needed concerning reporting of weather-related constraints that affect the ability of a generating unit or plant in their footprint to operate safely and without damage to equipment.

Standards should also include requirements for GO/GOPs to create, maintain, implement and then monitor their plants winterization plan to ensure it can operate during cold weather events.

Need (Explain why the Standard is being developed or modified. Clearly indicate why the actions being proposed are needed for maintaining or improving bulk power system reliability, including an assessment of the reliability and market interface impacts. This is similar to the Purpose statement in a Reliability Standard.)

Repeated occurrences of generation shortfall in cold weather conditions in the southern US states indicate that institutionalization of cold weather preparation and reporting of generation availability is needed.

During the 2011 SW Winter Weather event, load shed was required to meet the demand due to loss of generation. During this weather event, cold weather conditions froze critical plant instrument sensors and equipment, causing generation to trip offline or not be able to come online to generate electricity when it was critically needed. Simultaneously, BAs and TOPs were basing their operations and operations planning on inaccurate generation availabilities and capacities from the GO/GOPs because the data available to them did not include availability based on the GO/GOPs Minimum Ambient Operating Temperature. This inaccurate information caused the BA and TOP to over-estimate the available generation, which resulted in the need to use load shedding to balance the actual available generation and load. Based on the Joint FERC-NERC Report, in many cases generation plants: (1) did not know their minimum operating temperature and how wind speed would lead to accelerated heat loss from the critical plant equipment ; (2) reported inaccurate minimum operating temperatures; (3) recorded minimum operating temperatures that had been set when the plant was commissioned and did not reflect current plant capability or winterization.; (4) did not utilize their cold weather maintenance practices that were in place to meet the minimum operating temperature. During the critical load time, many plants were in the mode of having to unfreeze equipment and make weather proofing modifications in real time to keep plant equipment from freezing or re-freezing. This subsequently caused generation to not be available during critical peak times,

causing the GO/GOPs, BA and TOP to be unaware of the state of the generation resources.

Goals (Describe what must be accomplished in order to meet the above need. This section would become the Requirements in a Reliability Standard.)

The goals of the SAR are:

- GO/GOPs are to define “Minimum Ambient Operating Temperature” for a generating unit including effects from wind speed.
- To require GO/GOPs to report their plant’s availability based on this Minimum Ambient Operating Temperature to the BA and TOP before the winter season and during the winter season if plant availability is impacted by expected cold weather conditions.
- GO/GOPs must ensure plant winterization plans are created, maintained, implemented and monitored to help ensure generating facilities can operate at their respective Minimum Ambient Operating Temperature.

Objectives and/or Potential Future Metrics (Describe what the potential measure or criteria for success may be for determining the successful implementation of this request. Provide ideas for potential metrics to be developed and monitored in the future relative to this request, if any.)

During cold weather events, generation plants will perform (or be available) as reported for the Minimum Ambient Operating Temperature and provide their capability as determined by the generation plant to the BA and TOP

The SDT should be cautious to ensure that this Standard addresses that GO/GOPs determine their Minimum Ambient Operating Temperature and communicates plant availability to the BA/TOP based on this. This Standard should not be crafted in such a way that finds GO/GOPs in violation if a unit fails for reasons other than a cold weather event.

The SDT should also ensure that GO/GOPs are not automatically in violation when it is determined that they did determine their Minimum Ambient Operating Temperature and they did create, maintain, implement and then monitor a valid winterization plan. It will be a challenge for the SDT to exclude those GO/GOPs that upon review, did indeed implement these requirements and only experienced an unanticipated equipment problem.

Detailed Description (In three paragraphs or more, provide a detailed description of the proposed actions a drafting team will be responsible for executing so that the team can efficiently implement this request. While you will check applicability boxes on the following page, this description must include proportional identification of to whom the standard should apply among industry participants.)

The standards modifications should extend applicability to GOP/GO where needed in addition to BA and TOP. The drafting team should develop a definition for a plant/unit’s Minimum Ambient Operating Temperature including specifics regarding wind speed. The drafting team

should include results based requirements for a generator to have a winterization plan appropriate for their location, climate and plant design and the resources (time, staff, budget, etc.) to implement it in order to achieve the Minimum Ambient Operating Temperature. The drafting team should include coordination expectations (next-day and real-time) by the Generator Operator with the BA/TOP should they be unable to maintain plant/unit capability at the Minimum Ambient Operating Temperature limit. The drafting team should consider a requirement for a GO/GOP to notify the BA/TOP if forecasted weather conditions will impact plant availability based on the GO/GOPs Minimum Ambient Operating Temperature.

Initial candidate standards for consideration are: EOP-001, TOP-002-3, MOD-025-2, and, but this is not an exclusive list and the Drafting Team should recommend other standards requiring modification.

OPTIONAL: Technical Analysis Performed to Support Justification (Provide the results of any technical study or analysis performed to justify this request. Alternatively, if deemed necessary, propose a technical study or analysis that should be performed prior to a related standard development project being initiated in response to this request.)

See report “Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011” located at http://www.nerc.com/files/SW_Cold_Weather_Event_Final_Report.pdf.

A review has been undertaken of the individual utilities and a group review on June 14, 2012 was performed for all of the recommendations. While certain entities agree there is a problem, they also contend that in certain instances, local jurisdictions have stepped in with regulations. However this issue is a continent-wide issue and, given the history of repeated generation shortfalls in southern states (as evidenced in the FERC-NERC Report), a more permanent institutionalization through standards is needed to address, on a permanent basis, the capability of generation to operate in cold weather.

Reliability Functions

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

	Selling Entity	services as required.
<input type="checkbox"/>	Market Operator	Interface point for reliability functions with commercial functions.
<input type="checkbox"/>	Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

Reliability and Market Interface Principles

Applicable Reliability Principles <i>(Check box for all that apply.)</i>	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.
Does the proposed Standard(s) comply with all of the following Market Interface Principles? <i>(Select 'yes' or 'no' from the drop-down box.)</i>	
1.	A reliability standard shall not give any market participant an unfair competitive advantage. Yes
2.	A reliability standard shall neither mandate nor prohibit any specific market structure. Yes
3.	A reliability standard shall not preclude market solutions to achieving compliance with that standard. Yes

4. A reliability 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 Projects

Project ID and Title	Explanation

Regional Variances

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	

SPP	
WECC	

Exhibit B

Draft Notes

Cold Weather Review Team Meeting

June 13, 2012 | 8:30 a.m.-4:00 p.m. ET

NERC Atlanta Office
3353 Peachtree Road, NE
Suite 600, North Tower
Atlanta, GA 30326

1. **Welcome—Herb Schrayshuen**

- Herb Schrayshuen welcomed and thanked attendees for participating.

2. **Review NERC Antitrust Guidelines and Open Meeting Reminder—Herb Schrayshuen**

- Herb Schrayshuen delivered the Antitrust Guidelines and Open Meeting Reminder to participants. No questions were raised.

3. **Review of Emergency Procedures—Herb Schrayshuen**

4. **Introductions—Herb Schrayshuen**

- Meeting attendees:
 - Brenda Hampton, EFH Luminant
 - Darrell Piatt, FERC
 - Don Jones, Texas RE
 - Greg Darnell, Southern Company Services, Inc.
 - Howard Gugel, NERC
 - J.C. Culberson, III, ERCOT
 - John Wiseman, JEA
 - Michelle D'Antuono, Occidental
 - Mike Gentry, Salt River Project
 - Randy Crissman, New York Power Authority
 - Terry Coggins, Southern Company Services, Inc.
 - Tim Ponseti, Tennessee Valley Authority
 - David Hawkins, El Paso Electric Co. (via conference call)

- Jamie Webb, Lafayette Utilities System (via conference call)
- Stephen Solis, ERCOT (via conference call)
- Janet Eschenbrenner, El Paso Electric Co. (via conference call)

5. **Review Agenda—Herb Schrayshuen**

- One modification to the agenda was offered regarding the addition of remarks by Mike Moon on compliance processes based on controls.

6. **Objectives—Herb Schrayshuen**

- The identified objective was to determine what, if any, standards changes were needed in light of the event and recommendations of the joint FERC/NERC Report.

7. **Project Background—Herb Schrayshuen**

- Herb Schrayshuen provided the outline of the efforts to date and urged the need for industry “ownership” of the task to deal with this risk issue.

8. **Field Investigation Findings*—Earl Shockley**

- Earl Shockley provided a review of the joint event analysis with the FERC and the basis for the recommendations in the report.

9. **Compliance Processes Based on Controls—Mike Moon**

- Mike Moon offered a detailed report on a new concept being proposed which is controls- based compliance verification.

10. **Report from ERCOT*—J.C. Culberson**

- J.C. Culberson provided a recap of the cold weather event and ERCOT’s handling of the event. It was noted that during an equally demanding cold snap the following week, load and generation were balanced successfully.

11. **Northern Climate Winterization-NYPA Programs and Lessons Learned*—Randy Crissman**

- Randy Crissman presented some examples of the winter weatherization efforts implemented by NYPA.

12. **Roundtable Discussion**

- The group reviewed the response to recommendations prepared by ERCOT. A list of comments and reactions was developed by the group and will be used as a basis for follow-on work as outlined in the action item list below.
- There was general recognition that a comprehensive, institutionalized response to this risk issue was needed.

- The form of that response might include changes to standards, but could likely take the form of guidance to the industry, i.e., bulletins, alerts , and pre-seasonal reminders.

13. Action Items

- NERC staff to prepare notes of the meeting and circulate them for comments.
- NERC staff to complete and issue a copy of the comments recorded in agenda item 12.
- NERC staff to prepare a form for extending the “matrix” with space for each region to provide input comparable to that provided by ERCOT.
- Regional representatives to take the form forward and develop inputs similar to those put forward by ERCOT.
- Next steps will be handled by email or conference call.
- Scheduling detail with due dates will be provided in future communications.

The meeting was adjourned at 3:19 p.m. ET.

*Background materials provided.