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Individual
Mark DeWolf
NAES Luna and Lordsburg
Yes
Yes
No
No
Group
Operating Committee
Tom Bowe, Chair
PJM
No
Cold weather events are one example of ambient conditions under which BES components (lines, relaying, breakers, transformers and generators) must perform. GO/GOPs should know and communicate the capabilities of the generating units under their authority. While load is intended to be served almost all the time, there are going to be points in time during which not all load can be served while maintaining real-time reliability. The grid and those generators that are connected to it and operating at the time of a power system disturbance must be protected without fail. NERC standards do not assign the responsibility to "serve all firm load - all the time" to any entity. Fundamentally, doing so would be in opposition to EPAct of 2005's prohibition against FERC / ERO passing adequacy standards. Adequacy regulations remain under the authority of the States. In regulated states, the state utilities commission sets expectations for utilities in planning to serve firm load. In deregulated states, the market operator sets the compensation mechanism for generators, and market operators should address the cost of winterization into their market rules, based on the expectations the state utilities commission has of the market operator for serving firm load. In deregulated states, generators will weigh the benefit of any winterization project against the cost to implement. The benefit must be weighed with the likelihood of occurrence of an extreme weather

event. In the event that initiated this NERC effort, the cold weather with high winds experienced then had last struck the Texas area about twenty years ago. It is illogical for a generator owner to invest money in a project today when the project becomes useful only once in twenty years. Reasonably, the market operator would develop a compensation mechanism for assuring that generators would be available under certain stressful climatic conditions. While there may be some mechanism of this kind developed as a compromise position, it is also illogical for a market operator to cause an investment of this kind by generator owners since it has such a poor return on investment for the ratepayers. Winterization of power plants is a complex undertaking. 1. The design basis for power plants is different in different climates. Power plants are designed to meet highly probable local climatic conditions. Plants in northern parts of North America are typically constructed with closed turbine buildings and extensive cold weather mitigation plans, procedures and apparatus. Plants in southern areas of North America have the opposite problem of prolonged high heat in summer. These plants are typically constructed with open turbine buildings. For example, if one owns an automobile in northern areas of North America, an engine block heater is required to be plugged in over-night if the driver expects to be able to crank the engine after a cold night. Yet, in the south, engine block heaters are almost unknown, due to the differing climate in the south. Just as there is no national standard for engine block heaters, there should not be a national standard for design or winterization of power plants. 2. Typically, a new plant is designed and constructed, but the actual capability of the new plant in cold weather is not known until it experiences a significant period of cold/windy weather. The actual performance of such a plant before the first such cold weather event is unknowable (many of the systems and much of the equipment is embedded deeply within structural components, making direct testing highly impractical.) The Texas event had several relatively new generators affected by this phenomenon. The first such event in the life of a power plant tends to expose weak points, which are then addressed based on cost-benefit analyses. In open turbine buildings across the south, various temporary measures are taken when extreme cold is forecasted, such as erecting temporary wind breaks and adding temporary portable heaters. Over time, best practices have emerged that are simple enough to be executed when a period of extreme cold weather is forecasted. These are typically shared among plants operated by a single entity. The Generator Forum may be the best entity to pursue development of continental winterization best practices. Notwithstanding the above, BAs with load obligations should understand the capabilities of generators that contribute to meeting their next-day and current day loads under the ambient conditions expected for those peak periods. GO/GOPs are currently responsible to (1) determine and (2) provide this information to the TOPs. The GO currently must comply with "Determine": FAC-008-1 R1. The Transmission Owner and Generator Owner shall each document its current methodology used for developing Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities. The methodology shall include all of the following: ... R1.3.2. Design criteria (e.g., including applicable references to industry Rating practices such as manufacturer's warranty, IEEE, ANSI or other standards). R1.3.3. Ambient conditions. R1.3.4. Operating limitations. And "Provide Information": FAC-009-1 R1. The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology. R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities. There appears to be a gap related to BAs, in that Generator Owners are not required by FAC-009-1 R2 to convey this generation capability information to their host BA, although they are required to notify their TOP. We suggest that FAC-009-1 R2 be revised to state: "R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), [Insert: Balancing Authority(ies)] and Transmission Operator(s) as scheduled by such requesting entities."

No

We believe that the BA should be added to FAC-009-1 R2. In addition, EOP-001-2.1b is applicable only to BAs and TOPs. Requirement R4 states: Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1-EOP-001 when developing an emergency plan. However, Attachment 1 – EOP 001 includes elements that are only under the control of GOs and GOPs. These include: 1. Fuel supply and inventory — An adequate fuel supply and inventory plan that

recognizes reasonable delays or problems in the delivery or production of fuel. 2. Fuel switching — Fuel switching plans for units for which fuel supply shortages may occur, e.g., gas and light oil. 10. Maximizing generator output and availability —The operation of all generating sources to maximize output and availability. This should include plans to winterize units and plants during extreme cold weather. Even though R4 includes the word “applicable”, these elements only under control of GOs and GOPs are not aligned properly to TOPs and BAs. Rather, the GO and GOP should be added as applicable entities to EOP-001, as they are the entities in control of these elements of Attachment 1. We specifically do not endorse any significant expansion of this requirement beyond what is described above and we do not support any new proscriptive requirements for winterization due to the variety of approaches that are necessary across North America to address local weather extremes.

Yes

This is not an area the fits well as a continental standard due to the differing climatic conditions faced by power plants in North America. We suggest no continental standard, as this is a localized issue regarding firm load, not an Interconnection issue.

Yes

As outlined in our comments above, Market Operators in deregulated states may need to review the qualification rules for generators to participate in the market. There may need to be a compensation mechanism developed for generators that are expected to operate without failure in an extreme cold weather event.

As stated above, this is a local load-serving issue, essentially a question of adequacy under extreme conditions, that properly belongs to the States, and should not be included in NERC standards. We support the collection and dissemination of generator winterization best practices by the appropriate groups. We firmly believe that no single continental standard is merited nor would it be useful in improving BES reliability.

Individual

Peter Trimble

Cleco

Yes

Yes

No

No

Group

Arizona Public Service

Jana Van Ness, Director Regulatory Compliance

Arizona Public Service Company

Yes

Yes

No

No

Individual
Mark Hoynacki
Wisconsin Electric Power Co.
No
This whole weather event centered around electric entities located in the southern U.S. (TRE/WECC/SPP regions). We are a northern utility in RFC with all our plants/units located in cold and winter weather areas. As such, our plants/units have been designed for these conditions (i.e. enclosed buildings) and we have and continue to take the necessary winter weather preparations every year to ensure our plants/units will continue to operate during cold and winter weather. Operations in sub-freezing temperatures is a routine operating condition for northern utilities. We should avoid prescriptive requirements and should focus on processes in place to assess ever changing operating conditions during the winter months. For example, freeze protection efforts must always consider which units are on and off line and must consider construction activities that can affect temperatures in the plants. This would be good example where this topic could be handled by the applicable region's specific standards or with regional criteria. NERC could then require those electric entities to meet their applicable regions standards or regional criteria as needed.
Group
Luminant
Brenda Hampton
Luminant Energy Company LLC
Yes
Overall, we agree that there is a need to address the issue of cold weather preparedness; however, we believe we should choose the most effective method and am not entirely convinced that a standard is the optimal answer.
Yes
No
The SAR and the Standard should be developed in a manner to accommodate the entire country, but recognize the differences in different regions of the country (in addition to plant / site design).
No
Individual
Kathryn Zancanella
South Feather Power Project
No
This SAR proposes to add Generator Owners/Operators to EOP-001, but it seems to create redundancy with existing standards already applicable to GO/GOPs. Standards TOP-001, TOP-002 and TOP-006 are already applicable to GO/GOPs and seem to address many of the same issues regarding communications about availability of generation resources. If an extreme cold weather element needs to be added, it should be to one of these standards (e.g., TOP-002, R3).

Individual
Thad Ness
American Electric Power
No
The EOP standards are not the appropriate choice to pursue the creation, maintenance, implementation, and monitoring of winter weather preparation plans. Rather, it should be its own standard within the FAC series of standards. It must be acknowledged that temperature conditions vary widely across the continent, making it unnecessary and impractical to specify and require a single set of specifications for winter weather preparation. Rather, any requirements in this regard should allow the entity to establish their own processes and specifications based on seasonal historical data in their own geographical area. TOP-003 once included the reporting of generator status from generator operator to transmission entities. Perhaps TOP-003 could be enhanced to improve coordination for these sorts of events.
Yes
The SAR states that the standard would also apply to the Balancing Authority and Transmission Operator, however, it would appear that the GO and GOP would likely have the responsibility of meeting the requirements of this new standard. Clarification should eventually be provided in regards to the expected responsibilities of the BA and TOP.
No
AEP is not currently aware of any regional variances that would be needed as a result of this project, however that would not be fully known or understood until details of this project emerge.
No
AEP believes this project could eventually impact current business practices, however we are not currently aware of any structured business practices (such as NAESB) or other industry best practices that would need to be modified. Again, this would not be fully known or understood until details of this project emerge.
Sound judgment should be used in developing new SARs such as this one, to ensure that any new standards are developed correctly the first time. This helps avoid future revisions, interpretation requests, and CANS which have become unduly burdensome.
Individual
Clem Cassmeyer
Western Farmers Electric Cooperative
No
I agree the GO/GOP should be able to present their winterization plan and show they have implemented their plan prior to freezing weather. I also agree, for the BA and TOP to be able to meet requirement 10 of Attachment 1-EOP-001, the GO and GOP will need to provide them with their winterization plan. However, winterization of plants should be part of Normal Operation. Normal Operation is addressed in TOP-002. I believe this would be a better location for a requirement addressing plant winterization. They could then provide the winterization plan to the BA and TOP as needed per EOP-001-2b.
Yes
I agree that TOP and BA have responsibilities under EOP-001-2b, that could only be met with cooperation from GO and GOP.
Yes
Its possible that during extreme cold weather conditions, plants in the south may be forced to operate under conditions for which they were not designed. Traditionally, generating plants in the north are enclosed and those to the south are not. However it is more likely that complacency played a factor in the problem that occurred in the Southwest event. All generating plants, whether they are located in northern or southern regions, have winterization procedures. A Normal Operation standard would require plants in the south to complete their winterization plans and be able to present documentation

thereof, with the same diligence as plants in the north.
No
Winterization plans should be part of Normal Operation (TOP-002-2.1b). I don't agree an EOP standard is the place to address it. This happened in a region (ERCOT) where assistance couldn't be made available by surrounding entities.
Individual
Ronald Larson
HDR Engineering, Inc.
Yes
Yes
Yes
Need to provide a definition of "Cold Weather"; i.e. historical temperature conditions. Some areas of the US (e.g. Florida) have never experienced the temperature extremes necessitating special winterization measures. With a "Cold Weather" definition, Entities that can demonstrate that such temperature extremes don't apply could validate that the standard is "Not Applicable."
No
Individual
Andrew Z. Pusztai
American Transmission Company
No
The SAR is premature. Regional regulations currently proposed may effectively address the situation, eliminating the need for a continent wide Standard.
Yes
Yes
It is entirely regional. Therefore, the issue must be addressed in Regional Entity Operating Criteria only, not a continent wide Standard.
No
Individual
Tiffany Lake
Westar Energy
No
1.To require GO/GOPs to report generating unit capabilities based on anticipated winter weather using criteria developed by the standard drafting team using stakeholder input. If this is a unit rating then it really doesn't accomplish much b/c this is an anticipated rating and the event may be worse than anticipated. However if this is forecasted unit capability during the 7 day planning horizon and in real time then we can see benefit to communicating this information to the BA and RC. This may be appropriate to be in EOP-001. 2. GO/GOPs must ensure winter weather preparation plans are created, maintained, implemented and monitored as appropriate to help ensure generating units can operate to the criteria developed above. The plans shall include appropriate annual winterization measures. We agree that GO/GOPs need to be included. However, the criteria should be met by completing the

winterization requirements and increased reporting requirements regarding weather impacts to unit availability. Reporting requirements should be addressed in EOP-001, while winterization requirements should be addressed in TOP-002.

Yes

We agree that TOP and BA functions have responsibilities under the current EOP standard. The scope of the SAR should not require expanding the TOP or BA responsibilities. On page one of the SAR it states "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". Based on this statement we are assuming that scope is limited to GOs and GOPs.

Yes

The issues were created by cold weather being much more extreme than the region typically experiences and than what the plants in the region were designed for and had operating experience with. This can happen in any region. Plant winterization Requirements can be developed that require implementation of best practices that are appropriate for site conditions and the equipment at the facility.

No

This will not be known until further details of this project are released.

We agree that communication of unit status to the appropriate entities in the operations time frame should be included in the EOP standards. Winterization plans should be part of normal operation and should be placed in TOP-002 rather than an EOP standard.

Group

ACES Power Marketing Standards Collaborators

Ben Engelby

ACES Power Marketing

No

(1) We do not agree with the scope of this project because cold weather preparedness is a regional issue; particularly in the southern states that are generally warm and do not face extreme cold weather very often. The SAR even states it is a regional issue with "winter weather conditions in southern US states." Why should a utility in Minnesota be burdened with demonstrating compliance to a cold weather standard? If they can't meet this basis requisite in a far northern climate, they will regularly fail to serve load in the winter. Such a standard does not contribute to reliability in a northern region in any manner. Thus, any compliance costs associated with such a utility demonstrating compliance to a cold weather SAR is not consistent with the FERC mission to ensure just and reasonable rates. A regional issue should not become a continent-wide standard. (2) We do not believe that a standard is necessary. Rather, we think more education, outreach and analysis is necessary to mitigate the risks and to identify if a standard is necessary. NERC has produced dozens of cold weather Lessons Learned and registered entities can also refer to the FERC Outage report. There is enough weather preparedness information available to the industry that a standard is not needed. If NERC believes that further guidance is warranted, we have other options and recommendations listed below in bullet (3) and in Q5. (3) The SAR indicates that "generation plants did not effectively utilize their cold weather maintenance practices that were in place." If entities did not utilize cold weather practices that were in place, how will a standard that requires the development of cold weather plans help? From the SAR, it appears there were already plans. More research needs to be performed to understand why the existing plans were not implemented. Was their importance not understood? Was knowledge of the plans not transferred due staff attrition? Would an outreach effort in ERCOT to remind generators of the importance of cold weather plans have triggered generators to make the necessary adjustments? Would a NERC data request or regional workshop prior to the cold weather event have highlighted to the generators that their plans were not fully implemented? The bottom line is that there are a number of ways this problem can be addressed that are more likely effective than developing a standard and would be required in parallel with any standards development effort. Until those efforts are exhausted and we better understand why the existing cold weather plans were "not effectively utilized," we think development of a

standard is premature.
No
(1) Winterization of power plants is a complex undertaking. Power plants are designed to operate for the local climate conditions of that region. Plants in the northern states and Canada are designed with extensive cold weather mitigation plans, while plants in the southern states are designed to withstand extreme heat. Requiring southern states to adopt winterization procedures of the north is cost prohibitive and unnecessary. As stated above, education and outreach efforts would be a more effective use of resources to ensure that utilities are prepared for cold weather. (2) A power plant's cold weather capability is not known until it first experiences a significant period of cold and windy weather. The Texas event had several relatively new generators that had not operated these extreme conditions and several weak points were exposed. These areas were addressed by erecting temporary wind breaks, adding insulation to exposed wiring, and adding temporary portable heaters. Over time, best practices have emerged that are simple enough to be executed when a period of extreme cold weather is forecasted. The Generator Forum is an appropriate industry group to pursue development and application of winterization best practices appropriate to the region.
Yes
There will be several regional variances needed as the result of this project. Each region that experiences extreme cold weather will need a variance for this standard. In particular, this standard should not apply to the northern states because the Facilities are already designed to withstand cold weather events. As mentioned above, this issue does not need to be a continental standard due to the differing climatic conditions faced by power plants in North America.
No
The cold weather event that sparked the need for this SAR occurred on February 2, 2011 and was one of the coldest winters since 1989, with single digit temps and 50+ mph winds. Statewide in Texas 225 units tripped, de-rated or failed to start. The vast majority of failures were due to freezing of instrumentation, based on insufficient or ineffective preparation for extreme cold weather events. The generators that were offline during the event lost millions of dollars. Due to the opportunity cost, these companies quickly identified the problems and allowed the generators to react and respond to a similar weather conditions that occurred the following week. The business practices do not need to be modified, because it was the companies' responding to the event that remediated the issue to ensure that the generators were running for the rest of the winter. A standard is not needed.
(1) NERC has several options to educate the southern utilities to prepare for extreme cold weather. NERC can use section 1600 to request winterization plans. They can also hold regional workshops to educate registered entities. They can also request data from the plants that failed to operate to determine what they have done to avoid a repeat. There are more effective options available to NERC instead of developing a standard. (2) If NERC determines that some other form of guidance is needed for this issue, Regional Criteria can be issued, as stated in the NERC Rules of Procedure Section 313. This section states: NERC ROP Section 313 Other Regional Criteria, Guides, Procedures, Agreements, Etc. 1. Regional Criteria — Regional Entities may develop Regional Criteria that are necessary to implement, to augment, or to comply with Reliability Standards, but which are not Reliability Standards. Regional Criteria may also address issues not within the scope of Reliability Standards, such as resource adequacy. Regional Criteria may include specific acceptable operating or planning parameters, guides, agreements, protocols or other documents used to enhance the reliability of the Bulk Power System in the Region. These documents typically provide benefits by promoting more consistent implementation of the NERC Reliability Standards within the Region. These documents are not NERC Reliability Standards, Regional Reliability Standards, or regional Variances, and therefore are not enforceable under authority delegated by NERC pursuant to delegation agreements and do not require NERC approval. (3) NERC should address this issue by utilizing the other options available when a regional issue is presented and a continent-wide standard is not necessary. There are going to be different cold weather issues in Texas than in Manitoba – one size does not fit all. We believe there are several reasonable approaches that NERC can utilize without having to develop a standard on cold weather preparedness. (4) Thank you for the opportunity to comment.
Group
Northeast Power Coordinating Council
Guy Zito
Northeast Power Coordinating Council

No
<p>A new or revised requirement for GO/GOPs is not necessary and not justified, especially in the northern regions of NERC. Reviewing recent NERC Lessons Learned bulletins, cold weather events described involved an entity in Texas or SERC. These are areas unaccustomed to cold weather. GO/GOP locations in the northeast are either indoors, and if necessary already install / maintain heat tracing and cold weather protection otherwise there would be continual operational issues in the winter. Basic cold weather protection is a concept that is already inherent into operations and design. Specific to the proposed requirements, there is already a requirement to keep the TOP and BA informed of real time unit capacity and limitations. It makes no difference if there are issues due to summer heat, or winter cold. In either case the proper notifications are made if it is realized that this is causing problems with the generating unit and may limit capacity or cause it to trip. There are existing and future reliability standards being developed that address generator capability reporting (TOP-002-2.1b, TOP-006-2,) and reliability entity (BA, RC and TOP) emergency plans (BAL-002-1, and EOP-002-3.1 and EOP-003-2). The SAR also focuses exclusively on cold weather when there is also the probability that extreme heat could also result in 'errors' in forecasted generator capability. In existing standard TOP-002-2, Requirement R3, the GOP is required to coordinate its operations with its host BA, and in Requirement R14 to inform the BA and TOP of changes to real power capability, and in Requirement R15 to provide a forecast of real power output when requested by its BA or TOP. TOP-006-2 Requirement R1 requires the BA and TOP to know the status of all facilities (generation and transmission available for their use), Requirement R4 requires the BA and TOP to have weather forecasts, and Requirement R5 requires the RC, TOP and BA to GOP to have "monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action..". Regarding the winter preparation plans, how detailed would they need to be? Coal, nuclear, traditional boiler and CTG based power plants are very different in design. The requirements would have to be extremely general in order to make a requirement fit all styles of generating plants. In the event cited in the SAR, the GOP failed to adequately assess its real power capability and report that to its BA and TOP. The Lessons Learned provided for these events are sufficient to make the industry aware of where improvement is needed. If registered entities apply the corrective actions in these, as is expected, then any future events resulting from the same, or similar causes, should be deemed as a potential violation(s) of the appropriate reliability standard(s) and requirement(s). Cold weather preparedness would best be addressed in a "Best Practices" or similar publication (such as a guidance document), or given to an existing technical committee.</p>
No
<p>Refer to the reply to Question 1 above. We do not agree with the list of reliability functions. The only standard identified is EOP-001. The draft SAR proposes giving latitude to the drafting team to identify additional standards requiring modification. Winter weather issues are not limited to GO/GOPs. In fact, in 2012 NERC issues multiple winter weather Lessons Learned associated with GO/GOPs and TO/TOPs as well.</p>
No
<p>Refer to the reply to Question 1 above.</p>
No
<p>GO/GOP generating unit capability reporting is adequately addressed in existing TOP standards. Requirements for GO/GOP cold weather preparations should not be included in the EOP standards. The existing EOP standards target responding to or mitigating the consequences of an emergency. Cold weather preparation presumes the system would never get to an emergency state resulting from generator issues associated with extreme weather. Suggest that mechanisms outside the standards development process, either with or without a NERC initiative, may be more appropriate to achieve the desired result the SAR is proposing; Lessons Learned for example. NERC has recently issued a number of Lessons Learned associated with cold/winter weather (6 in 2012, 4 in 2011) and believes the effectiveness of that process must be considered before deciding that a reliability standard is the solution. As previously noted, these Lessons Learned include TO/TOPs in addition to GO/GOPs. Suggest that the issue be reviewed by the Reliability Issues Steering Committee (RISC). The RISC has commented: "The RISC believes there are better ways to address this concern than through the</p>

development of the standard. As such, RISC does not support this SAR. We recommend instead that an approach of education and awareness be used to address this concern: We recommend the NERC Operating Committee develop a guideline that assists entities in preparing for cold weather. This guideline should be published to the industry no later than December 3, 2012. We recommend NERC annually remind entities of the need to prepare for cold weather and of the existence of the OC Guideline, through the use of Webinars and other approaches. The first of these Webinars should occur on or before December 14, 2012." The SAR is not specific on which standards are to be modified. It only mentions EOP-001 as a possible candidate, but states that "is not an exclusive list". A SAR that is not specific as to the standards that are to be modified is not acceptable. The SAR is trying to address an adequacy issue which is outside of the NERC standards' purview. Adequacy is addressed by others, e.g. local State and Provincial regulators. In the Northeast, this is already taken care of, without standards or criteria. The PC should take a look at the issue presented and identify if a SAR is warranted to address what needs to be corrected. The Purpose of the standard remains unclear because there are currently standards to address this issue, for example: TOP-002-2.1b — Normal Operations Planning R3. Each Load Serving Entity and Generator Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal operations with its Host Balancing Authority and Transmission Service Provider. Each Balancing Authority and Transmission Service Provider shall coordinate its current-day, next-day, and seasonal operations with its Transmission Operator. R14. Generator Operators shall, without any intentional time delay, notify their Balancing Authority and Transmission Operator of changes in capabilities and characteristics including but not limited to: R14.1. Changes in real output capabilities. EOP-002-3.1 — Capacity and Energy Emergencies R1. Each Balancing Authority and Reliability Coordinator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its respective area and shall exercise specific authority to alleviate capacity and energy emergencies. There are other requirements as well. There is also concern that the weather conditions as described could be considered a high impact low probability event. This weather condition appears to be far outside typical weather patterns, which could also be applicable to summer periods. In this case, would it not be a HILF event? And, in that case the industry as yet to determine how best to address these in lieu of requirements that are too burdensome for normal or emergency operations. The industry at this point has agreed that NERC guidance documents are the best approach to provide communications to the industry on how best to address these situations. If this SAR proceeds, Page 1 of the SAR reads that this will be a "Revision to existing Standard EOP-001-2b". It should read as EOP-001-2.1b. This standard number should also be updated on page 2 of the SAR, in the Detailed Description section. If a standard is deemed necessary, it should be pursued as a SERC or TRE Regional Standard.

Group
Southwest Power Pool Reliability Standards Development Team
Jonathan Hayes
Southwest Power Pool
No
1.To require GO/GOPs to report generating unit capabilities based on anticipated winter weather using criteria developed by the standard drafting team using stakeholder input. If this is a unit rating then it really doesn't accomplish much b/c this is an anticipated rating and the event may be worse than anticipated. However if this is unit capability during the near term event then we can see some benefit to coordinating this information. 2. GO/GOPs must ensure winter weather preparation plans are created, maintained, implemented and monitored as appropriate to help ensure generating units can operate to the criteria developed above. The plans shall include appropriate annual winterization measures. We agree that GO/GOPs need to be included.
Yes
We agree that TOP and BA functions have responsibilities under the current EOP standard being revised but would like clarification. On page one of the SAR it states "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. We are assuming that scope is limited to GOs and GOPs.

Yes
The issues created by extremely cold weather typically occur across the southern portion of the United States. Traditionally, this is in the area where generating plants to the north are enclosed. Those to the south are not. During extreme cold weather conditions where the normal demarcation line is pushed further south, situations occur where units are expected to operate under conditions for which they have not been designed. Having said this there will be a need to have variances to address each unit based on how it is built and where it is located.
No
This will not be known until further details of this project are released
Winterization plans should be part of normal operation. We don't agree that the EOP standard is the place to address it. We aren't sure why this SAR is needed. It seems like this is a "knee jerk reaction" to the extreme event that happened. This happened in a region where assistance couldn't be made available by surrounding entities. Other places that could address the scope of this SAR could be in FAC-008-3, TOP-002-2.1b, TOP-003-2. The team may want to take a look at these other Standards.
Individual
Dave Willis
Idaho Power Co.
No
No, I don't think that because a few GO/GOPs did not maintain good utility practices by preparing for extreme or extended winter conditions that the industry should be subject to additional compliance risk by adding requirements to the existing standard. The GO should always know what the capacity is of his resource in all weather conditions through daily conversations with field personnel. This is an isolated event and we shouldn't require additional regulation for a one time event.
No
No, the BA and TOP would have no ability to ensure that the GO/GOP had conducted winter preparation or that they were correctly reporting capacity or availability. This responsibility should be only the GO's. Through daily conversations with the TO, he can relay resource capacity.
No
No
Individual
Paul Haase
Seattle City Light
No
The first sentence of the SAR background refers to cold weather issues in the "southern United States" yet the proposed Standard appears to be aimed at all of North America. Entities located in the northern United States experience and prepare for cold weather conditions every year. These entities design their facilities to operate during cold weather (unlike entities in the south, which design facilities to manage heat during the summer). Moreover northern entities already have practices in place to prepare for winter conditions each year, and have had such practices for as much as 100 years. For northern entities, this Standard would appear to add a paperwork burden—formally documenting, tracking, and evidencing implementation of policies and procedures that have functioned for decades—that offers no reliability benefit. Indeed the burden to prepare and manage the necessary documentation may even detract from cold weather reliability for northern entities. First because resources will need to be assigned to document compliance, potentially reducing the availability of resources to perform other work (including winterization). And second because to minimize the compliance risk and documentation challenge, northern entities may simplify, standardize, or eliminate some of the proven winterization activities they perform today.
Yes

Yes
<p>Entities in northern North America should not be subject to the proposed Standard for the reasons discussed in question 1, above. We offer three options for achieving this. 1) One approach to design of a Regional Variance might be to identify, using historical data of the United States National Weather Service or a similar organization, regions where freezing temperatures may be expected at some time in each three to five years. Such regions should not be subject to the Standard. A map that clearly marks such regions should be included as an Attachment to the Standard. 2) An alternative approach might be to include a 'trigger mechanism' within the Standard. Such a trigger mechanism would control when the Standard would apply to an entity, i.e., if the entity suffered loss of availability of BES generation or transmission due to cold weather, that entity then would be required to document, track, and evidence implement of cold weather policies and procedures. A sunset clause would be appropriate, to the effect that after successfully maintaining availability for the next two or three cold weather events, the need to document, track, and evidence implementation of winterization would no longer be required until a future loss of availability occurs. Such a mechanism provides appropriate carrot and stick incentives. If an entity winterizes successfully by whatever means, it would not be subject to compliance monitoring, audits, and risk. If an entity does not, it can remove the compliance risk by demonstrating successful winterization over the next two or three cold weather events (which might be 2-3 years for a northern entity and decades for a southern entity).</p>
Yes
<p>Under a proposed Cold Weather Standard, business practices will be required to document, track, monitor, and evidence implementation of winterization policies and procedures. For northern entities these practices will formalize activities that have been performed for decades, but may not be documented to an audit-ready level. For southern entities, entirely new winterization activities may need to be devised, trained and socialized, documented, implemented, monitored, and evidenced.</p>
Individual
Doug Peterchuck
Omaha Public Power District
Agree
Seattle City Light
Individual
Jonathan Appelbaum
The Uited Illuminating Company
No
<p>UI disagrees with the need for this SAR and the Scope. If a cold weather day occurs that is beyond the design day of a facility then the TOP/BA will need to take extra steps already allowed for in the Standards to operate additional units. If a Standard is needed, and UI does not believe one is needed, then it should solely focus on the establishment of a cold weather design day and obligate the unit to be able to operate on that day. The compliance process would then monitor the establishment of the design day, and if a unit does not operate on that day due to cold weather issues, then an enforcement action would occur. Again, UI does not believe this SAR is required because, The interconnection requirement and study process were established to have units that are capable of operating across a range of circumstances are built and that the TO/TOP/BA/RC are aware of the units design capabilities. The second requirement of the SAR is a requirement to provide data to the generating unit capabilities based on anticipated winter weather using criteria developed by the standard drafting team using stakeholder input. This is already provided for in TOP-003-2 and at the time of interconnection in FAC-001 and FAC-002. Under the present Standard a TOP can request the Generator Capability minimum operating temperature or such via TOP-003-2. The purpose of Top-003-2 is To ensure that the Transmission Operator and Balancing Authority have the data needed to fulfill their operational planning and Real-time monitoring responsibilities. If a Standard must be developed then UI does not want the winterization requirement to be in EOP-001. EOP's are Emergency Operation procedures and the cold weather event was extreme but not an Emergency and</p>

it would confuse the EOP-001 standard to have Generator maintenance for winterization in the same Standard with TOPS and BA's emergency operations. A new FAC maintenance standard should be written to describe the results based requirements of a winterization program.

No

The TOP should be removed since UI believes this could be addressed by TOP-003-2.

No

No

Under Reliability Needs and Market Place Principles UI believes number 2 does not apply since this is a maintenance requirement and not a real-time controlling requirement, number 3 should not be checked since TOP-003-2 provides for the provision of this information, and number 4 should not be checked since this is not related to emergency operation or system restoration.

Group

Bonneville Power Administration

Chris Higgins

Transmission Reliability Program

No

BPA believes there should not be a separate requirement for reporting unit and plant capabilities for "winter conditions". GOP's should at all times report their unit generating capability with consideration given for any condition which could limit their unit or plant capacity – winter or summer. Reporting requirements are already addressed in other standards; for example TOP 003. Those requirements may need to be changed to address this issue but they should not need to be duplicated in EOP 1 as suggested by the SAR. We should keep reporting requirements together in the standards as much as possible and not introduce new reporting requirements into the Emergency Operations PLANNING standard.

Yes

No

No

BPA is not aware of any business practices at this time which will be needed as a result of this project. It should be noted that northern tier states face winter conditions on a yearly basis; therefore, there is a strong possibility that there are such pre-existing business practices.

Individual

Nazra Gladu

Manitoba Hydro

No

As a utility that deals with seasonal cold weather issues every year, it does not seem prudent to modify an Emergency Preparedness standard. Our preference would be to see this integrated into a FAC standard or a TOP. The facility should be designed to the worst case scenario weather standard and/or cold weather preparedness should be part of standard operating practice.

Yes

No comments.

No

No comments.

No

No comments.

No comments.
Individual
Michael Falvo
Independent Electricity System Operator
No
We believe that these requirements are more appropriate for inclusion in a regional standard rather than a North American wide standard. For example, areas such as the Northeast deal with cold weather annually and have adopted cold weather preparations as part of their normal business. These requirements seem to be more appropriate for areas of the continent that experience cold weather events much less frequently. As a regional standard, the requirements can be adopted by each region as appropriate. The current standards already require the RC/TOP/BA to develop their respective plans based on their knowledge of the system they are operating. They are responsible to monitor and "adjust" for the idiosyncrasies of their assets.
No
We do not believe there can be clear assignments of responsibility to address all cold weather events, which may include TOs/TOPs to ensure, e.g., power washing of transmission lines during heavy snow/icing condition.
No
As stated previously we would propose that this is more appropriate as a regional Standard.
No
We are unable to understand how the creation of or revision to a reliability standard will drive the need for creating or modifying business practices.
Individual
Don Schmit
Nebraska Public Power District
Agree
MRO NSRF [Midwest Reliability Organization - NERC Standards Forum Review]
Individual
Patti Metro
National Rural Electric Cooperative Association
Agree
NRECA supports/endorse the comments developed by the NERC Operating Committee. Specifically NRECA agrees that a continent wide cold weather standard is not required. To operate in varied cold weather climates many registered Generator Owners and Generator Operators already adhere to the requirements included in this SAR. There will be little or no reliability benefit from the addition of the standard described in this SAR only an increased administrative burden which contradicts the purpose of the Project 2013-02 Paragraph 81 initiative. In addition, with regard to the addition of the Balancing Authority to FAC-009 R2, it is difficult to determine the benefit of adding this applicable entity since in some instances the Reliability Coordinator is also the Balancing Authority for a Reliability area. An example of such is MISO.
Individual
Michelle R. D'Antuono
Occidental Energy Ventures Corp
No
The SAR scope should not include: "develop criteria, using stakeholder input, for determining GO/GOP capability reporting to the BA/TOP for generating units during winter weather conditions." • Capabilities for winter weather conditions are already reported to the BA/TOP. This reporting is done at various intervals depending on the type of market and the participation in the market (e.g., daily in ERCOT through the Current Operating Plan) and is tailored to meet the particular market needs. In

addition, ERCOT, in particular, does a survey of generators each winter season to assess generator capabilities. • There is no evidence that, if some set of criteria had been in place, generation capability reported to ERCOT would have been significantly different during the 2011 event. • Developing a set of criteria for the various types and vintages of generation does not seem practical and could lead to a tendency to “hedge” the capacity reported. • These criteria would most likely be quite different for different regions due to differences in weather patterns and fuel mix of the generation. • The BA/TOP already has the authority to require information on generation availability for next day and real time operations. • Finally, generator owner/operators in most market areas have a significant economic incentive to have full capacity available in severe winter weather conditions. In addition the cost impact for this project will not be insignificant. Even though it may be another 30 years before a winter event of this magnitude takes place, each time we receive a storm warning we will be required to evaluate every aspect of the emergency plan, arrange for extended operations coverage, and ensure that supplies are on hand. The Cost Effective Analysis Process (CEAP) will need to be integrated into the project. The goal would be to quantify the reliability benefits so that they always outweigh the cost – so that we may apply our scarce dollars to other programs just as important.

No

Transmission Planners and Planning Authorities will need to adjust their system models to account for cold weather impacts on generation capacity. This will also impact next-day operations validations – which means Reliability Coordinators must be involved as well.

Yes

Since all the objectives in the SAR are currently (or will be) institutionalized in the ERCOT/TRE Region (and possibly in other Regions) through legislative and state regulatory requirements, the requirements in the SAR could cause redundancy in some regions.

No

However, it is our understanding that NERC Operating Committee is developing a Guideline (with similar stakeholder participation as envisioned by this SAR) as an alternative to this SAR.

The objectives of this SAR are already (or are in the process of being) institutionalized in the ERCOT region through legislative and regulatory requirements. Additional steps by ERCOT have been or will be taken to ensure that generation facilities have winterization plans in place and have annual verification through attestations by facility management. Since “winterization” is very different in different parts of the country due to widely varying weather conditions, it would seem that regional or state solutions would be preferable, as is the case within the ERCOT region.

Group

PacifiCorp

Ryan Millard

PacifiCorp

Yes

PacifiCorp endorses the general scope of this SAR but recommends that the Standards Drafting Team (SDT) provide a clear definition of the scope of applicable facilities. It is currently unclear what criteria the SDT will be using to establish the size of generator units considered to be in-scope and out-of-scope (i.e., 20 MVA and above, 100 KV and above, etc.).

Yes

PacifiCorp agrees with the list of proposed functional entities; however, if additional standards are impacted (beyond the EOP Reliability Standards), their inclusion should be subject to NERC’s formal commenting phase.

No

No

PacifiCorp cannot adequately determine what business practices might be impacted by this project until more information regarding the criteria and measures used to evaluate the requirements is distributed by the Standards Drafting Team.

Individual
Laurie Williams
PNM Resources, Inc. (PNM and TNMP Utility Subsidiaries)
Yes
Yes
Yes
PNMR believes that there may be a regional difference warranted in ERCOT. TOPs in ERCOT do not have visibility of generation resources other than those directly connected to our system and we do not schedule any generation to meet load. Currently there is a CFR JRO between ERCOT and the individual transmission operators. This may need to be amended to account for any changes to the standard.
No
PNM Resources, Inc., which is comprised of two utility subsidiaries operating in 3 Regions including TRE, SPP, and WECC, is supportive of NERC pursuing a standard that is reasonable, cost-effective and risk-based to make winter weather preparations for generators mandatory and enforceable. PNMR and its utility subsidiaries plan to be active in the standards development process.
Individual
Keith Morisette
Tacoma Power
No
Tacoma Power considers the scope to be too vague. The SAR form states "GO/GOPs must ensure winter weather preparation plans are created, maintained, implemented and monitored as appropriate". It is not clear if the scope of these plans would be similar to the scope of the three separate questionnaires that were requested by NERC, WECC, and NWPP in 2011. For example, it is not clear if the scope would include instrumentation, heaters, winter drills, lodging, food, communication protocols, etc. Training for winter preparedness is already covered by EOP and PER standards. The Standards Drafting Team should use caution when creating additional requirements so as not to create duplicate efforts.
No
The SAR is inconsistent with regards to applicability. The "Brief Description" section only describes applicability to GOs and GOPs. The "Reliability Function" section of the SAR includes BAs and TOs in addition to GOs and GOPs. The BA and TOP functions for emergencies and restoration are already defined in EOP and TOP standards and include ensuring fuel supply and how to deal with energy shortages. Tacoma Power does not want to see a duplication of existing standards. Remove BA & TOP from this SAR except for sharing the GO /GOP Winterization Plan.
No
No
None.
Group
PPL Corporation NERC Registered Affiliates
Stephen J. Berger
PPL Generation, LLC on behalf of its Supply NERC Registered Entities
No

The PPL Companies believe that Project 2013-1 Cold Weather Preparedness is more suited to be implemented using a regional standard approach. This project arose out of cold weather problems in Texas & US Southwestern states. Because of the year round warmer climates, plant design decisions were made to take advantage of natural cooling that occurs when elements are left exposed to the weather. While this has on occasion resulted in BES problems in the US Southwest and other places when severe cold weather strikes, cold weather protections are already commonly installed in more northern regions. The joint report cited to support the SAR list nine key electric industry findings at pages 195-197. Eight of these key findings relate to the US Southwest, ERCOT or events that took place or failed to take place in the region affected by the February 2011 cold snap. Project 2013-1 background section identifies the remaining key finding, i.e. "[t]he lack of any state, regional or Reliability Standards that directly require generators to perform winterization . . ." and suggests this finding supports adoption of a continent-wide standard. While regional standards may generally be disfavored, absent evidence of a more widespread problem, a regional approach is all that is called for in this instance. The lack of a dedicated standard does not by itself provide sufficient technical basis to impose requirements on regions that have not experienced the problem that the proposed standard is intended to address. Moreover, even if one were to disregard the absence of any technical justification for a continent-wide standard, there are NERC Standards in effect that are concerned with weather related impacts on generating units (Attachment 1 of EOP-001 Item #10 of the "Elements for Consideration in Development of Emergency Plans" which includes plans to winterize units and plants during extreme cold weather"). Standard IRO-001-3 R2 and TOP-002 R1 provide the RC authority to direct the GO/GOP to follow the emergency plan developed by the BA/TOP to address Attachment 1 of EOP-001 Item #10. TOP-002 R2 and IRO-001-3 R3 require the GO/GOP to provide communication to the RC of the inability to perform the RC Directive to follow the BA/TOP emergency plan addressing Attachment 1 of EOP-001 Item #10.

Yes

Yes

The PPL Companies believe that Project 2013-1 Cold Weather Preparedness is more suited to be implemented using a regional standard approach. This project arose out of cold weather problems in Texas & US Southwestern states. Because of the year round warmer climates, plant design decisions were made to take advantage of natural cooling that occurs when elements are left exposed to the weather. While this has on occasion resulted in BES problems in the US Southwest and other places when severe cold weather strikes, cold weather protections are already commonly installed in more northern regions. The joint report cited to support the SAR list nine key electric industry findings at pages 195-197. Eight of these key findings relate to the US Southwest, ERCOT or events that took place or failed to take place in the region affected by the February 2011 cold snap. Project 2013-1 background section identifies the remaining key finding, i.e. "[t]he lack of any state, regional or Reliability Standards that directly require generators to perform winterization . . ." and suggests this finding supports adoption of a continent-wide standard. While regional standards may generally be disfavored, absent evidence of a more widespread problem, a regional approach is all that is called for in this instance. The lack of a dedicated standard does not by itself provide sufficient technical basis to impose requirements on regions that have not experienced the problem that the proposed standard is intended to address. Moreover, even if one were to disregard the absence of any technical justification for a continent-wide standard, there are NERC Standards in effect that are concerned with weather related impacts on generating units (Attachment 1 of EOP-001 Item #10 of the "Elements for Consideration in Development of Emergency Plans" which includes plans to winterize units and plants during extreme cold weather"). Standard IRO-001-3 R2 and TOP-002 R1 provide the RC authority to direct the GO/GOP to follow the emergency plan developed by the BA/TOP to address Attachment 1 of EOP-001 Item #10. TOP-002 R2 and IRO-001-3 R3 require the GO/GOP to provide communication to the RC of the inability to perform the RC Directive to follow the BA/TOP emergency plan addressing Attachment 1 of EOP-001 Item #10.

Individual

Andrew Gallo

City of Austin dba Austin Energy

No
Most entities already have practices in place to prepare for winter conditions each year and have had such practices for as much as 100 years. For those entities, this Standard would appear to add a paperwork burden—formally documenting, tracking, monitoring and evidencing implementation of policies and procedures that have functioned for decades; doing so offers no reliability benefit. Indeed the burden to prepare and manage the necessary documentation may detract from cold weather reliability. First, because resources will need to be assigned to document compliance, potentially reducing the availability of resources to perform other work (including winterization). Second, to minimize the compliance risk and documentation challenge, entities may simplify, standardize, or eliminate some of the proven winterization activities they perform today. Additionally, in the ERCOT Region, we already have a requirement to provide Current Operating Plans (COPs) to ERCOT (for day-ahead and longer term). There are also state-level requirements to provide weatherization data to the Public Utility Commission of Texas. This SAR is an over-reaction to a low frequency, low impact event.
Yes
If the SAR moves forward, the correct functional entities are listed.
Yes
It would appear that several regional variances may need to be implemented (e.g. for northern entities that already address winterization and for entities in the ERCOT Region where state-level requirements already exist).
Yes
Under a proposed Cold Weather Standard, business practices will be required to document, track, monitor and evidence implementation of winterization policies and procedures. These practices will formalize activities that have been performed for decades, but may not be documented to an audit-ready level.
Individual
RoLynda Shumpert
South Carolina Electric and Gas
Yes
Yes
No
No
Group
IRC Standards Review Committee
Albert DiCaprio
PJM
No
The SRC disagrees with the need and the scope of the proposed SAR. The SRC believes that the subject issue is a regional issue and not a North American issue. The SRC would point out that the weatherization requirements for non-enclosed power plants is significantly different than for enclosed power plants. The SRC suggests that a more effective approach would be to share current information, experiences and proposals on this topic through the ERO. Another alternative would be to remand this issue to the regions for their own solutions. The SRC does not see the need for the

proposed SAR to hold GOs/GOPs responsible for preparing and reporting their generating units' capability, for the following reasons: 1. In an open, deregulated environment, generator owners/operators are free to enter into commercial arrangement or bid into a market. There are already reliability standards that require GOs/GOPs to verify units' real and reactive power capability but the extent to which these units are indeed capable to generate in operational planning or near real-time horizons are commercially sensitive information. To require GOs/GOPs to prepare their units for any upcoming seasons so that they are capable of producing as declared, and to report such capabilities are inconsistent with (and in fact may conflict) the principle of open access that allows generating units to freely participate in the market place. And even if GOs/GOPS do prepare their units for the upcoming winter seasons and report their capabilities, the GOs/GOPs may still opt for not participating in the market case thereby rendering such preparedness and reporting useless. 2. We do not see the need to have any standards that are focused on increasing the reliability of generation units during winter events only. Once we develop this precedence, the next load shed events involving hot weather events (which have happened in the past) will drive the need for a parallel standard for summer events. Many entities in the north are already very familiar with and capable of managing resource availability during extreme cold weather during winters, but such practices have not risen to a continent-wide standard that forces compliance by all GOs/GOPs including those in the south that rarely experience similar cold weather conditions. There are current standards that require the RC/TOP/BA to develop their respective plans based on their knowledge of the system they are operating. They are responsible to monitor and "adjust" for the idiosyncrasies of their assets.

No

The SRC disagrees with the need and the scope of the proposed SAR. The SRC does not believe there can be clear assignments of responsibility to address all cold weather events. The SRC notes that the issue being addressed may also include TOs/TOPs to ensure, e.g., power washing of transmission lines during heavy snow/icing condition. There is no clear assignment of responsibility to address all cold weather events.

No

No

The lack of definitions makes this standard problematic from a compliance perspective. Since this is a "Winter" standard, does it apply only from December 21 to March 20? Does "winter weather conditions" apply to every day between the above mentioned dates, since every day in that period is a winter day and every day has (winter) weather? Attachment 1 – EOP-001 better handles the objective that this SAR attempts to address. That attachment focuses on "winterizing" for cold weather as part of an Emergency Plan. Responsibility in cases of low probability winter events is complex. Is this a situation caused by the resource owners or is it a situation that relates to the Reliability entities since they have a responsibility to be prepared for such conditions? (see EOP R2 and its subparts). What if the "weather" is outside the area of the resource (i.e. the forecast for cold is for a state or a city but not for every locale in that state or city (i.e. weather is local). There is no fair and clear cut responsibility obligation. This proposal is to have a SDT develop criteria for unit capacity. That seems to be tantamount to developing an Adequacy standard which is outside the stated purview of the ERO.

Individual

Chantal Mazza

Hydro Québec TransÉnergie

No

The need for new requirements is unnecessary, especially for the NPCC region given the fact that these areas are accustomed to cold weather. This area of concern would best be addressed in a "Best Practices" publication, a guidance document or within an existing technical committee.

No

Since we do not agree with the scope of this SAR, we do not agree with the list of proposed applicable functional entities.

No

Please refer to Question 1.
No
Hydro Québec is in agreement with the following comments provided by the RISC workgroups. "The RISC believes there are better ways to address this concern than through the development of the standard. As such, RISC does not support this SAR. We recommend instead that an approach of education and awareness be used to address this concern: - We recommend the NERC Operating Committee develop a guideline that assists entities in preparing for cold weather. This guideline should be published to the industry no later than December 3, 2012. - We recommend NERC annually remind entities of the need to prepare for cold weather and of the existence of the OC Guideline, though the use of Webinars and other approaches. The first of these Webinars should occur on or before December 14, 2012." Hydro Québec is in agreement with the following comments provided by the RSC workgroups: " The SAR is not even specific on which standards are to be modified. It only mentions EOP-001 as a possible candidate, but states that "is not an exclusive list". "In the Northeast, this is already taken care of, without standards or criteria". "The industry at this point has agreed that NERC guidance documents are the best approach to provide communications to the industry on how best to address these situations."
Group
SERC OC Standards Review Group
Stuart Goza (OC Vice Chair)
TVA
No
Cold weather events are one example of ambient conditions under which BES components (lines, relaying, breakers, transformers and generators) must perform. While GO/GOPs should know and communicate the capabilities of the generating units under their authority, the recent issue that initiated this SAR was extreme loss of load in a BA. While load is intended to be served almost all the time, there are going to be points in time during which not all load can be served while maintaining real-time reliability. The grid and those generators that are connected to it and operating at the time of a power system disturbance must be protected without fail. The ERCOT BA performed correctly in shedding load to regain load and generation balance. NERC standards do not assign the responsibility to "serve all firm load - all the time" to any entity. Fundamentally, doing so would be in opposition to EAct of 2005's prohibition against FERC / ERO passing adequacy standards. Adequacy regulations remain under the authority of the States. In regulated states, the state utilities commission sets expectations for utilities in planning to serve firm load. In deregulated states, the market operator sets the compensation mechanism for generators, and market operators should address the cost of winterization into their market rules, based on the expectations the state utilities commission has of the market operator for serving firm load. In deregulated states, generators will weigh the benefit of any winterization project against the cost to implement. The benefit must be weighed with the likelihood of occurrence of an extreme weather event. In the event that initiated this NERC effort, the cold weather with high winds experienced then had last struck the Texas area about twenty years ago. It is illogical for a generator owner to invest money in a project today when the project becomes useful only once in twenty years. Reasonably, the market operator would develop a compensation mechanism for assuring that generators would be available under certain stressful climatic conditions. While there may be some mechanism of this kind developed as a compromise position, it is also illogical for a market operator to cause an investment of this kind by generator owners since it has such a poor return on investment for the ratepayers. Winterization of power plants is a complex undertaking. 1. The design basis for power plants is different in different climates. Power plants are designed to meet highly probable local climatic conditions. Plants in northern parts of North America are typically constructed with closed turbine buildings and extensive cold weather mitigation plans, procedures and apparatus. Plants in southern areas of North America have the opposite problem of prolonged high heat in summer. These plants are typically constructed with open turbine buildings. For example, if one owns an automobile in northern areas of North America, an engine block heater is required to be plugged in over-night if the driver expects to be able to crank the engine after a cold night. Yet, in the south, engine block heaters are almost unknown, due to the differing climate in the south. Just as there is no national standard for engine block heaters, there should not be a national

standard for design or winterization of power plants. 2. Typically, a new plant is designed and constructed, but the actual capability of the new plant in cold weather is not known until it experiences a significant period of cold/windy weather. The actual performance of such a plant before the first such cold weather event is unknowable (many of the systems and much of the equipment is embedded deeply within structural components, making direct testing highly impractical.) The Texas event had several relatively new generators affected by this phenomenon. The first such event in the life of a power plant tends to expose weak points, which are then addressed based on cost-benefit analyses. In open turbine buildings across the south, various temporary measures are taken when extreme cold is forecasted, such as erecting temporary wind breaks and adding temporary portable heaters. Over time, best practices have emerged that are simple enough to be executed when a period of extreme cold weather is forecasted. These are typically shared among plants operated by a single entity. The Generator Forum may be the best entity to pursue development of continental winterization best practices. Notwithstanding the above, BAs with load obligations should understand the capabilities of generators that contribute to meeting their next-day and current day loads under the ambient conditions expected for those peak periods. GO/GOPs are currently responsible to (1) determine and (2) provide this information to the TOPs. The GO currently must comply with "Determine": FAC-008-1 R1. The Transmission Owner and Generator Owner shall each document its current methodology used for developing Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities. The methodology shall include all of the following: ... R1.3.2. Design criteria (e.g., including applicable references to industry Rating practices such as manufacturer's warranty, IEEE, ANSI or other standards). R1.3.3. Ambient conditions. R1.3.4. Operating limitations. And "Provide Information": FAC-009-1 R1. The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology. R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities. There appears to be a gap related to BAs, in that Generator Owners are not required by FAC-009-1 R2 to convey this generation capability information to their host BA, although they are required to notify their TOP. We suggest that FAC-009-1 R2 be revised to state: "R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), Balancing Authority(ies) and Transmission Operator(s) as scheduled by such requesting entities."

No

We believe that the BA should be added to FAC-009-1 R2, but that no new EOP standards are needed. In addition, EOP-001-2.1b is applicable only to BAs and TOPs. Requirement R4 states: Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1 - EOP-001 when developing an emergency plan. However, Attachment 1 – EOP 001 includes elements that are only under the control of GOs and GOPs. These include: 1. Fuel supply and inventory — An adequate fuel supply and inventory plan that recognizes reasonable delays or problems in the delivery or production of fuel. 2. Fuel switching — Fuel switching plans for units for which fuel supply shortages may occur, e.g., gas and light oil. 10. Maximizing generator output and availability —The operation of all generating sources to maximize output and availability. This should include plans to winterize units and plants during extreme cold weather. Even though R4 includes the word "applicable", these elements only under control of GOs and GOPs are not aligned properly to TOPs and BAs. Rather, the GO and GOP should be added as applicable entities to EOP-001, as they are the entities in control of these elements of Attachment 1. We specifically do not endorse any significant expansion of this requirement beyond what is described above and we do not support any new proscriptive requirements for winterization due to the variety of approaches that are necessary across North America to address local weather extremes.

Yes

This is not an area that fits well as a continental standard due to the differing climatic conditions faced by power plants in North America. We suggest no continental standard, as this is a localized issue regarding firm load, not an Interconnection issue.

Yes

As outlined in our comments above, Market Operators in deregulated states may need to review the qualification rules for generators to participate in the market. There may need to be a compensation mechanism developed for generators that are expected to operate without failure in an extreme cold weather event.

As stated above, this is essentially a question of adequacy under extreme conditions, that properly belongs to the States, and should not be included in NERC standards. We support the collection and dissemination of generator winterization best practices by the appropriate groups. We firmly believe that no single continental standard is merited nor would it be useful in improving BES reliability. The comments expressed herein represent a consensus of the views of the above named members of the SERC OC Standards Review Group only and should not be construed as the position of SERC Reliability Corporation, its board, or its officers.

Group

Hydro One

Sasa Maljukan

Hydro One Networks Inc.

Agree

NPCC Regional Standards Committee

Individual

Scott McGough

Georgia System Operations Corporation

No

The SAR raises two discrete reliability objectives in the Detailed Description section: 1- To require GO/GOPs to report generating unit capabilities based on anticipated winter weather using criteria developed by the standard drafting team using stakeholder input. 2 -GO/GOPs must ensure winter weather preparation plans are created, maintained, implemented and monitored as appropriate to help ensure generating units can operate to the criteria developed above. The plans shall include appropriate annual winterization measures. The RISC believes that the scope of this SAR is excessive and the reliability objectives can be addressed through alternative means. With respect to the reporting of generating unit capabilities, GOPs are responsible for providing data to BAs and TOPs, based on the data specification and periodicity requirements established by each BA and TOP under TOP-003-2 — Operational Reliability Data. This standard has been approved by the NERC Board and is pending submission to regulatory authorities. With respect to winter preparation by generators, a reliability standard is not the most effective and efficient way for NERC to ensure that GO/GOPs create, maintain, implement and monitor winter weather preparation plans. See response to Q5 below.

No

As the RISC believes the scope of this SAR is excessive, we do not believe functional entities need to be specified.

No

Cold weather preparation plans and requirements necessarily vary widely between regions and sub-regions of North America. While a continent-wide standard may not be necessary, the data specifications required by TOP-003-2 give the BA and TOP the option to take regional/local considerations (such as BES topology, generation mix, load patterns and extreme weather patterns) into account to ensure reliable operations planning and real-time operations.

No

The RISC believes there are better ways to address the identified concerns than through the development of new or revised standard(s). As such, RISC does not support this SAR. Further, the RISC believes non-standards actions can be completed expeditiously, prior to winter 2012/13. We recommend instead that an approach of education and awareness be used to address this concern: 1. We recommend the NERC Operating Committee develop a guideline that assists entities in preparing for cold weather. This guideline should be published to the industry no later than December 3, 2012. We further recommend that the OC review the body of standards to determine what other standards,

if any, address this concern. 2. We recommend NERC annually remind entities of the need to prepare for cold weather and of the existence of the OC Guideline, as well as remind them of any relevant standards, though the use of Webinars and other approaches. The first of these Webinars should occur on or before December 14, 2012. 3. We recommend that NERC develop training programs to educate the industry on the OC Guideline and cold-weather best practices, as well as any relevant standards. This training should be delivered annually and commence in Q3, 2013. 4. We recommend that the OC work with industry to establish a voluntary review process (possibly by the NATF or NAGF), through which entities can verify their preparedness. These reviews should occur annually and commence in Q3, 2013.

Individual

Jeanie Doty

Austin Energy

No

Austin Energy recommends the SAR address extreme weather conditions, not only winter conditions. Extreme heat, drought and hurricanes are also conditions that may have undesirable effects on generation if preparation is lacking. Austin Energy suggests the SDT consider the differences between "preparation" activities and "emergency response" activities. There is an important time-frame difference between preparation and emergency response. Activities associated with preparation include long lead-time items, such as ensuring adequate materials are stocked (perhaps material for deicing) or the installation of insulation, which may be part of a company's regular operation and maintenance procedures. Activities associated with emergency response take place when a threat is eminent or present, with a short or no lead-time. Examples include adjusting work schedules, applying deicing materials, and periodic patrols to inspect and ensure preventive measures (preparations) remain functional. Both types of planning and action are necessary, however preparation activities do not fit well under the emergency response umbrella.

Yes

No

Austin Energy is not aware of the need for a Regional Variance at this time. However, variances in regional weather conditions need consideration by the drafting team.

No

Austin Energy is not aware of any current business practices that will need modification due to this project. Depending upon the requirements created during this project, those created during the ERCOT NPRR 473 initiative and the similarity or difference between the requirements generated by these two processes, changes in business practices may become necessary.

NPRR 473, currently active within the ERCOT stakeholder process, addresses the winter weatherization issue. Austin Energy encourages the standard drafting team to review this activity and consider the merits of creating requirements that are compatible with the NPRR 473 when approved and implemented within the ERCOT Region.

Group

Duke Energy

Greg Rowland

Duke Energy

Yes

1. While we support the idea of having winterization requirements, we note that such requirements are probably more applicable to organized markets than to vertically integrated utilities. 2. A new reliability standard is not needed to address the winterization issue. EOP-001-2.1b could be revised to include a requirement for the GO/GOP to have winterization plans. However there is an aspect of coordination with the Balancing Authority that should be included. Winterization might not be needed for every generator, and there should be a way to exempt a generator. 3. Requirements for the GO/GOP to report generating unit capabilities based upon anticipated winter weather could be handled by the BA and TOP under TOP-003-2, without revision.

Yes
No
No
Individual
Alice Ireland
Xcel Energy
No
While the scope of the SAR does reflect FERC recommendations from the cold weather incident, Xcel Energy does not necessarily agree that the need for consistency rises to the point of inclusion in standards. Many generators are already implementing changes based on the blackout report recommendations.
Yes
Yes
It is not clear to Xcel Energy that generating plant outages caused by cold weather have been a common occurrence and caused grid reliability issues in Canada and the northern portion of the U.S. Xcel believes that the root cause of the Southwest Cold Weather Event are regional in nature and, if NERC determines that they cannot be addressed through Lessons Learned or Best Practices processes, should be handled by Regional Standards.
No
Xcel Energy generation has already taken steps to address items in this SAR, relating to the FERC recommendations.
The Engineering Analysis recommendation in the FERC recommendations list would result in a very large expense without compensating benefit. An engineering analysis that determines a design temperature value does not, in actuality, define a point where a plant will not operate if temperatures drop below, even by 1 degree. Instead, an analysis of historical operating records is more likely to yield useful and accurate information.
Group
Florida Municipal Power Agency
Frank Gaffney
Florida Municipal Power Agency
No
Significant changes are not needed to standards. The goals of the SAR are already addressed by existing standards and requirements or by projects with existing SARs. FMPA suggests a different approach entirely. There are essentially two goals that the SAR seeks to accomplish: 1. For generators to report their availability to the RC, BA and TOP based on forecasted weather conditions 2. For generators to be accountable for weatherization plans Reporting availability to RCs, BAs and TOPs based on forecasted weather conditions can already be addressed through standards IRO-010-1a and TOP-003-2 by simply causing the RCs, BAs and TOPs to ask for availability data based on forecasted weather conditions in their data specifications through those standards. This requires no changes to standards. Instead, for those regions where cold weather issues are problematic, e.g., those regions where cold weather is a more rare event, NERC and / or the regional RE could work with the RCs, BAs and TOPs in the region to perform this task. Additionally, EOP-001 already has a weatherization plan requirement, but, assigns that requirement to the wrong entity - the BA instead of the GO/GOP. In other words, the standard seems to have been drafted assuming a vertically integrated utility and assigns requirements to the BA where the requirements instead should be assigned to the GO or GOP. EOP-001 R4 requires TOPs and BAs to have emergency plans that

address the items in Attachment 1. Attachment 1 includes a list of bullets that include items like weatherization, fuel supply and inventory, fuel switching, alternative fuel supply and maximizing generator output that are incorrectly assigned to (presumably) the BA where the proper entity is the GO or GOP. In addition, EOP-001 is redundant with requirements in other standards such as EOP-002 on Capacity and Energy Emergencies and EOP-003 on load shedding. This speaks to the need to revise EOP-001 which this SAR identifies; however, that is already addressed in Project 2009-03. Hence, FMPA recommends that the Project 2009-03 SAR be revised in consideration of these factors rather than create a new Project.

Individual

Brian Murphy

NextEra Energy

No

NextEra Energy, Inc. (NextEra) requests that NERC not move forward with this SAR, because there is no need for any additional Reliability Standards to address the issues contained in the SAR. As NextEra reads the SAR, it is essentially concerned with the following two issues: (i) for Generator Owners to take steps to weatherize plants for cold weather; and (ii) for Generator Operators to communicate to Transmission Operators and Balancing Authorities the impact cold weather has on the capability of their generators. The latter issue is already addressed in the currently effective TOP-002-2b and the newly Board of Trustee approved TOP-003-2. TOP-002-2b requires that Generator Operators provide, without delay, information to Transmission Operators related to changes in capabilities and characteristics. Specifically, TOP-002-2b states: "R14. Generator Operators shall, without any intentional time delay, notify their Balancing Authority and Transmission Operator of changes in capabilities and characteristics including but not limited to: . . . R14.1. Changes in real output capabilities." Also, in TOP-003-2 Generator Operators must provide data as specified by the Transmission Operator. These data requirements will need to include generating capabilities and when temperatures (hot or cold) impact a generator's capabilities. Given the above requirements, NextEra believes that it would be duplicative to promulgate another Reliability Standard requirement to address the information sharing issue for generator capability during cold weather events raised in the SAR. As for Generator Owners taking steps to weatherize plants for cold weather -- this issue is better handled via lessons learned or best practices than a Reliability Standard for the following reasons: (i) the cold weather weatherization issue appears generally isolated to generators in the Southwest; and (ii) to impose weatherization requirements oversteps NERC's role into commercial matters. On the latter point, a Generator Owner's desire to weatherize its plant depends on a host of factors, including the cost of weatherization with consideration of the likelihood such weatherization will be needed in the foreseeable future and the possible impact to its market position by adding additional weatherization costs. Simply put, generators in a competitive market cannot simply decide (or be required) to add costs, because there was one event that may or may not occur again. Furthermore, the SAR has not provided sufficient rationale that support mandating certain cold weather weatherization for all generators. In this context, consider that the vast majority of generators already have weatherization plans for hot and cold weather, as well as plans and procedures for other environmentally related issues such as being close to salt water or sand. If NERC goes down the path of reacting to one isolated regional event with a mandatory requirement(s) when this is not an issue throughout the continent, it appears to be setting an unsettling precedent for micromanaging in the name of reliability instead of moving towards results based Reliability Standards. It is generally recognized that NERC should not be adding Reliability Standard requirements unless there is a reliability gap, but rather moving toward a results based approach to reliability. Instead of honoring this movement, the SAR proposes to add a documentation approach to reliability, a documentation approach that will be applied throughout the continent without due consideration that most of the continent already has sufficient and prudent business practices to address cold weather weatherization. Also, NERC should consider the punitive impact of implementing more mandatory requirements on a continent-wide basis because of an event particular to the

Southwest United States. It is punitive not only to the registered entities but also to the regional entities, because now another requirement has been added to the compliance plate without sufficient justification or need. Thus, it appears unnecessary, inefficient and punitive to enact a Reliability Standard throughout the entire continent, when the issue could more appropriately be handled via lessons learned and best practices to provide information to a relatively small number of generators on ways to improve cold weather weatherization, and allow those generators to make a business decision. In this regard, NERC is performing a constructive service to the industry by posting lessons learned bulletins that provide generators information so each Generator Owner can decide whether or not (and how) to improve the weatherization of its plant. In this regard, NERC should also consider publishing more statistical information on whether such an event is likely to occur in the foreseeable future. Accordingly, for the above reasons, NextEra requests that NERC not move forward with this SAR, but, instead, rely on lessons learned and the promotion of best practices as a way to inform generators on ways to consider weatherization for cold weather.

No

See answer to question 1.

No

See answer to question 1.

Yes

It appears that certain generators in the Southwest were not weatherizing for cold weather – implementing a Reliability Standard would inappropriately mandate a business/commercial practice.

Group

Dominion

Connie Lowe

Dominion

No

Dominion does not agree that there is a need for a new standard for cold weather events. There are existing and future reliability standards that address generator capability reporting (TOP-002-2.1b, TOP-006-2) and reliability entity (BA, RC and TOP) emergency plans (BAL-002-1, and EOP-002-3.1 and EOP-003-2). The existing standard TOP-002-2@R3 requires the GOP to coordinate its operations with its Host BA, @ R14 to inform the BA and TOP of changes to real power capability and @ R15 to provide a forecast of real power output when requested by its BA or TOP. FAC-008-3 @R2.2.3 will require GOs to document Facility Ratings utilizing a methodology that considers “Ambient conditions (for particular or average conditions or as they vary in real-time)”. TOP-006-2@R1 requires the BA and TOP to know the status of all facilities (generation and transmission available for their use), @R4 requires the BA and TOP to have weather forecasts, @ R5 requires the RC, TOP and BA to GOP to “monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action..”. In addition, EOP-004-1 @R3.3 recognizes the difficulty in fully assessing and reporting the total impact of severe weather in real time and allows exemption to the requirements for written reporting. One could argue that, in the Southwest events cited, the GOP failed to adequately assess its real power capability and report that to its BA and TOP. Dominion believes the Lessons Learned provided for these events are sufficient and that no new standard is needed. A more effective approach to achieve cold weather preparedness by generators than dictating actions through NERC standards would be to conduct random peer reviews of preparedness plans, review of existing controls to comply with existing standards and an annual publication of a guideline or white paper from NERC prior to the cold weather season reminding generators of their responsibilities within the existing standards, lessons learned from previous events and industry best practices. The proposed scope to require GO/GOPs to “ensure winter weather preparation plans are created, maintained, implemented, and monitored as appropriate”, is an administrative and auditing burden as a standard requirement. Without sufficient industry guidance available (except for engineering standards for design and installation), the basis for activities in the plan will be based on operator experience with average weather patterns to include scientific weather predictions, as well as be limited by technology and design parameters. This will likely create extreme variability in plans for auditing and maintaining. Industry experience with

similar standard requirements (e.g. PRC-005) has proven that this type of requirement does not allow for risk based assessment and implementation. This plan would be significantly more subjective than other standard requirements.

No

The only standard identified is EOP-001; however, the draft SAR proposes giving latitude to the drafting team to identify additional standards requiring modification. Dominion notes that winter weather issues are not isolated to GO/GOPs. In fact, in 2012 NERC issued multiple winter weather Lessons Learned associated with GO/GOPs and TO/TOPs as well.

No

Yes

Dominion does not believe that this SAR should move forward. However if it proceeds, current business practices may require very burdensome administrative modification in order to provide documentation sufficient to prove compliance with a typical winter weather plan, with no proven benefit to reliability.

Dominion believes that GO/GOP generating unit capability reporting is adequately addressed in existing TOP standards. Including requirements for GO/GOP cold weather preparations in the EOP standards appears misplaced. The existing EOP standards target responding to or mitigating the consequences of an emergency. Cold weather preparation presumes the system would never get to an emergency state resulting from generator issues associated with extreme weather. Dominion suggests that mechanisms outside the standards development process may be more appropriate to achieve the desired result, such as, Lessons Learned, an annual publication of best practices and peer reviews in conjunction with a review of existing standards requiring communication of generator capability are a better step. NERC has recently issued a number of Lessons Learned associated with cold/winter weather (6 in 2012, 4 in 2011) and believes the effectiveness of that process must be considered before deciding that a reliability standard is the solution. If this SAR proceeds, we suggest revising Page 1 the reference to "EOP-001-2b" to "EOP-001-2.1b". This should also be changed on page 2 of the SAR; Detailed Description section.

Individual

Nathan Mitchell

American Public Power Association

No

TOP-002-2.1b Requirements R13 and R14 currently requires a GOP to report to the BA or TOP their current generating capability, which will take weather and other operating conditions into account. The BA or TOP just needs to request the data be updated more frequently in extreme weather conditions. Also, TOP-003-2 Requirement R5, which has been approved by the NERC Board, but not yet filed with regulatory authorities, requires each GO/GOP to provide operations planning and real time operations data as specified by the BA and TOP. APPA suggests that the NERC Operating Committee (OC) provide guidance on requesting and reporting of generating capabilities during extreme weather conditions in support of TOP-002-2.1b and TOP-003-2. Modifications to the applicability and/or requirements of EOP-001-2.1b to include cold weather reporting by the GOP to the BA and TOP would appear to be duplicative. APPA does not believe that NERC should develop reliability standards addressing how GOPs and GOs should winterize their plants any more than NERC should develop standards for boiler tube maintenance. However, the NERC Operating Committee could develop industry guides and education programs to ensure that the impact of severe weather on BES operations is understood and that common winterization practices are well known and widely distributed within the industry. Educational webinars and alerts prior to the winter season can be used to refresh these lessons learned and ensure that institutional knowledge is retained. NERC may also want to work with other organizations such as the North American Generator Forum.

Group
EPSA
Jack Cashin
Electric Power Supply Association
No
<p>The draft SAR "Purpose" and/or goal is stated the following. 1. Report generating unit capabilities based on anticipated winter weather events. 2. Increase reliability of generating units during winter weather events. A. Reporting Generation Unit Capabilities: Maintaining sufficient power to serve load is a complex task done by Transmission Operators (TOPs) that includes consideration/anticipation that the interconnected grid must be protected during times of power system disturbances including extreme weather, hot or cold. Helping TOPs to meet this task, Generator Owners (GO) and Generator Operators (GOPs) communicate the capabilities of the generating units under their authority to TOPs currently required under several standards. While load is intended to be served, there are going to be times, especially during times of emergency, when not all load cannot be served. System operators should understand the capabilities of generators that contribute to meeting their next-day and current day loads under the ambient conditions expected for those peak periods. GOs/GOPs are currently responsible to (1) determine and (2) provide this information to the TOPs. GOs currently comply with the following three standards that support sufficient reporting: 1. FAC-008-1 R1. The Transmission Owner and Generator Owner shall each document its current methodology used for developing Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities. The methodology shall include all of the following: ... R1.3.2. Design criteria (e.g., including applicable references to industry Rating practices such as manufacturer's warranty, IEEE, ANSI or other standards). R1.3.3. Ambient conditions. R1.3.4. Operating limitations. 2. These requirements to "provide information: under FAC-009-1 R1. The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology. R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities. There appears to be a gap related to BAs, in that Generator Owners are not required by FAC-009-1 R2 to convey this generation capability information to their host BA, although they are required to notify their TOP. We suggest that FAC-009-1 R2 be revised to state: "R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), Balancing Authority(ies) and Transmission Operator(s) as scheduled by such requesting entities." 3. A GOP must comply with TOP-002-2.b R14. Generator Operators shall, without any intentional time delay, notify their Balancing Authority and Transmission Operator of changes in capabilities and characteristics including but not limited to: R14.1. Changes in real output capabilities. As described in the three standards above, the first purpose of the SAR (report generating unit capabilities based on anticipated winter weather events) is addressed in these 3 standards. Except for the minor modification recommended for FAC-009-1 R2, generators must already comply with several standards that address reporting of generating unit capabilities to BAs and TOPs. Therefore, no new standards are required to achieve the reporting purpose outlined in this SAR. B. Generators Reliability in Extreme Weather Events – Appropriateness of Generator Adequacy and Standards NERC standards cannot assign the responsibility to "serve all firm load - all the time" to any specific facility or entity. This is based on the Energy Policy Act (EPA) 2005's section 215 which defines FERC's authority to adopt reliability standards. Section 215 of the Federal Power Act is the framework for NERC and FERC with regard to the development and enforcement of Reliability Standards in the U.S. Section 215(i) states "This section does not authorize the ERO [presently NERC] or the Commission ... to "set and enforce compliance with standards for adequacy...of electric facilities or services." "Adequacy of electric facilities" may be aggregate adequacy of facilities, such as setting uniform resource adequacy planning criteria, or it may apply to individual facilities, such as setting equipment performance expectations. An example of the latter, no Reliability Standard may contain requirements that dictate the design parameters for transmission facilities – the existing standards leave those design parameters, which certainly impact the equipment's performance, to the individual Transmission</p>

Owner (TO); that said, TOs they must disclose their facilities' limitations, which system operators must respect, so that reliable operation is the result. Therefore, selecting the appropriate balance between planning for risk of shortages and additional resources is an economic and policy decision, not a Section 215 reliability issue. Generator requirements for adequacy, measured by performance, exist in other venues. Some of these are FERC regulated. For example, ancillary service schedules in an Open Access Transmission Tariffs (OATTs) have requirements for generators that voluntarily offer to provide various services, such as frequency regulation or operating reserves. If a generator's offer is accepted and it fails to provide the promised performance, the generator may incur monetary penalties. GOs and GOPs in organized markets are incented to have their units available during extremely cold or hot weather when spot prices are at their highest. In markets with installed capacity requirements, generator unavailability may result in diminished capacity payments. In non-market areas that are subject to cost-of-service regulation, state or local regulators set rates for the recovery of the capital and operating costs of rate-based generators. These regulators may impose penalties for the imprudent operation of generators. In organized markets where generators are not subject to rate-based regulation, imprudent operation is penalized by market rules. Based on the February 2011 event SW utilities and markets need to review their resource adequacy authority to develop rules and compensation mechanisms that will ensure that facilities and generators will be available under emergency conditions. Local jurisdictional authorities and their ratepayers should be allowed to develop reasonable economic solutions to meet rare extreme weather conditions. Continent wide, these authorities and customers are the best forums for developing adequacy solutions rather than standard development. A standard with national scope is therefore not the need prompted by the 2011 event. Winterization of power plants is a complex undertaking therefore there are other aspects of the contemplated reporting and planning scope of the proposed SAR that must be considered. First, the design basis for power plants is different in different climates. Power plants are designed to meet highly probable local climatic conditions. Plants in northern parts of North America are typically constructed with closed turbine buildings and extensive cold weather mitigation plans, procedures and apparatus. Plants in southern areas of North America have the opposite problem of prolonged high heat in summer. These plants are typically constructed with open turbine buildings. Just as there is no national standard for car equipment or home design, a national standard for design or winterization of power plants is not necessary. Second, new generating plants capability cannot be determined with any accuracy until the new plant experiences a significant period of extreme weather. Therefore actual performance of such a plant in extreme weather conditions is not known and would only be speculation and would not provide TOPs with actionable information. Attempting to simulate such events as was experienced in the SW would be impractical, given that matching the wind, cold and ice conditions would be generally impossible.

No

The NERC Operating Committee has recommended changes to EOP-001-2.1b which is applicable only to BAs and TOPs. Requirement R4 states: "Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1-EOP-001 when developing an emergency plan." However, Attachment 1 – EOP 001 includes three elements that are only under the control of GOs and GOPs. These include: 1. Fuel supply and inventory — A adequate fuel supply and inventory plan that recognizes reasonable delays or problems in the delivery or production of fuel. 2. Fuel switching — Fuel switching plans for units for which fuel supply shortages may occur, e.g., gas and light oil. 10. Maximizing generator output and availability —The operation of all generating sources to maximize output and availability. This should include plans to winterize units and plants during extreme cold weather. Even though R4 includes the word "applicable", these elements under control of GOs and GOPs do not include communication to TOPs and BAs. NERC's OC suggests that the GO and/or GOP should be added as "applicable entities" to EOP-001, as they are the entities in control of these elements of Attachment 1. EPSA does not endorse this recommendation because all of the items are related to generator performance adequacy. Performance adequacy and maximizing output or availability is the purview of local regulators or management and investors, not national reliability. All of these requirements address performance and, as discussed in response to Question 1, these are prohibited by Section 215 and addressed in by either organized markets or by state or local regulators.

Yes

Comments: This is not an area the fits well as a continental standard due to the differing climatic conditions faced by power plants in North America. We suggest no North American standard. as this is

a localized issue regarding the adequacy of generating capacity to serves firm load. It is not a North American issue, nor is it an issue for any specific Interconnection. 4. Are you aware of any business practice that will be needed or that will need to be modified as a result of this project? If yes, please identify the business practice.

Yes

Comments: Organized markets as well as state and local regulators need to address this emergency weather issues by balancing economic and generation adequacy as they see fit.

EPSA believes that meeting extreme weather conditions reliably is a local load-serving adequacy issue that properly can be best addressed by organized markets as well as state and local regulators and should not be a NERC standard. Importantly no single continent-wide standard is merited because it would not measurably improve BES reliability. We support the collection and dissemination of generator winterization best practices by the appropriate groups, such as the North American Generator Forum (NAGF). A SAR should not result from the specifics of single specific regional cold weather event and calls into question the value of writing a NERC-wide standard. If a SAR is needed it should be limited to extreme weather scenarios within a broader effort to strengthen capacity reporting for any situation, not just weather. The SAR does not discuss what is missing from existing standards that renders them insufficient. Consequently, some current standards may be providing pieces of appropriate information while potentially others may not be sufficient. Therefore, greater clarity on specific reporting needs will be useful to understand the standard revision purpose and to avoid creation of duplicative requirements across multiple standards. Putting a standard in place that dictates cold weather protection may infringe on design basis criteria. EPSA cautions against any standard language that goes to design basis. Power plant design basis is complex and determined by multiple factors including local climate and environment considerations. Standards that influence plant design to meet concerns of potential weather extremes may put at risk the design elements that meet prevailing local considerations. Moreover, any requirements that influence plant design will require a thorough cost-benefit analysis. Before proceeding with standard development, additional evaluation of all related factors and best tools available is warranted. However, in the meantime, dissemination of information on best practices and recommendations may be disseminated to generators in advance of this winter season with an explanation of the path forward beyond just a standard revision. Finally, we note that is issue had been submitted to the Reliability Issues Steering Committee (RISC) for their consideration by Allen Mosher, chair of the Standards Committee.

Individual

Scott Berry

Indiana Municipal Power Agency

No

Many Generator Owners/Generator Operators that live in cold environment practice good utility winter readiness and/or maintenance. These units use heat trace, insulation, and other means to keep instrumentation and other equipment in good working condition (not freezing). In addition, IMPA is concerned about writing a standard that contains requirements on the winterization of generation units, because even with the best winterization standard in place there are no guarantees that a unit will always start during freezing conditions or severe winter weather. If the generating unit does fail to start and depending on the winterization standard requirements, an entity could face a potential violation and/or a fine. IMPA believes that there should be just a winterization good utility practice in place and no standard with problematic cold weather requirements.

No comment.

No comment

Yes

IMPA has been performing preventative maintenance items that are done each year prior to winter to check to ensure the units are ready for the winter. If approved, a winterization standard adds additional administrative work on top of the tasks that IMPA has been performing for twenty years and the result will be the same but with more of an administrative burden on the maintenance staff instead of allowing them to focus on the maintenance.

IMPA does not believe that this standard is needed. Imposing a standard on the whole industry because a few plants in the south were not "winterized" is an over-reaction. This punishes those that

were already doing prudent practices (because we know we are going to have winter weather every year) for those that were not.

Individual

Kirit Shah

Ameren

No

We believe that this Standard is unnecessary for GO/GOPs in the Midwest for the simple fact that winter weather is routinely far more severe than in the Southwest (Texas) and the GO/GOPs in Midwest already have winterization plans and processes that they implement every year. Further, the scope of the proposed standard would involve issues related to resource adequacy and marketing considerations.

Yes

Developing winter weather unit capabilities using pre-determined weather may create conflicts with Regional Entity reporting Requirements for MOD-024 and MOD-025. In our case, these are currently administered by SERC.

Yes

We will need to stop using our current business practices and processes potentially to implement new practices as would be prescribed by the standard which could be significantly different in scope and schedule.

(1) Generators in the Midwest have been designed, constructed and maintained to routinely meet far colder temperatures than those experienced by entities in Southwest in February 2011. This winterization processes involve significant amount of work. Additionally, our Regional Entity already has reporting requirements for generating unit capability for the winter season. Any standard related to this activity as proposed in the SAR will only add compliance burden without realizing any additional benefit. (2) We cannot envision a single set of winterization Requirements and/or criteria that would apply to different regions in North America. Therefore, we do not believe that a continent-wide standard is needed.

Group

MRO NSRF

WILL SMITH

MIDWEST RELIABILITY ORGANIZATION

No

The NSRF does not agree with this SAR and believes that it may become a precedent for other SARs concerning natural events such as: earthquakes, forest fires, sand storms, hot weather, etc. We would also like to point out that not every GO/GOP had an issue with meeting their commitments during this time frame, as stated in the Event Report. The issue of cold weather operations is only one issue among many that power plants must prepare for. Power plants must operate and maintain for many operating conditions. For example, power plants must also ensure protection against issues related to hot weather [cooling towers, steam turbine condensers, and other heat exchangers]. During the February 2011 Southwest outage there were issues for certain plants that did not anticipate or prepare for [by operation or design, whichever the case was] the cold weather, due to the limited number of hours the region is normally exposed to these types of freeze conditions. Issues relative to the Southwest outage have been well documented and several lessons learned have been identified by NERC; and it is appropriate that the industry respond to these lessons learned independently and through their regions processes. According to the Event report, page 203, the state of Texas provided a starting point in enacting legislation with SB 1133, which has been signed into law on June 17, 2011. The issue of cold weather preparedness is being addressed by the areas affected by this Event and NERC does not need a continent wide Standard to address these issues. Note, that there are already enforceable Standards that the GO/GOP must follow, such as; IRO-010-1a, R3, TOP-002-02.1b, R3, R13, R14, and R15, which in some manner address the issues raised in this SAR.

Yes
The NSRF agrees with reliability functions but does not endorse this SAR.
Yes
This issue is entirely regional. Therefore, the issue must be addressed in Regional Entity Operating Criteria only, not a continent wide Standard. Please see comments in Question 1.
No
The NSRF believes that since Texas has formulated a state law concerning this event, any NERC Standard may place the entities within Texas under a double jeopardy issue.
If it is decided to move forward with this SAR the NSRF recommends that it be developed as a Regional Standard, not a Continent-Wide standard. If those plants in the Southwest or other areas that are affected by these issues would like to consult with Northern plants for guidance regarding freeze protection and preparing for cold weather, this would be time well spent in an industry forum. One possible solution is for the NERC Generator Forum to take up this issue to assist generation plants within NERC that are in warmer climates.
Individual
Patrick Brown
Essential Power, LLC
No
Although GO/GOP's should maintain their facilities with best maintenance practices to ensure their reliability at all times, additional reporting requirements are not necessary. Daily availability reporting is already required as part of the existing Standards; for example, TOP-002-2.1b Normal Operations Planning R3: "...Generator Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal operations". The current reporting requirements are sufficient if properly applied and enforced. Weather by nature is unpredictable, so additional requiring reports based on anticipated weather would be ineffective and, in most cases, potentially inaccurate.
Yes
The recommended Standard would need to be handled on a regional basis. The potential weather events that impact generators vary widely across North America, requiring different approaches in different geographic regions.
We do not believe that a Standard on this issue is necessary. This is an issue that would be better addressed through the enforcement of existing Standards and the development of operational guidelines for GO/GOPs.
Individual
Daniel Duff
Liberty Electric Power LLC
No
Disagree with the need for additional reporting. Generators already supply daily forecasts of day-ahead availability. These forecasts already take weather into account. For a merchant plant, overestimating availability can lead to significant financial penalty due to purchasing replacement power at real time cost. Adding additional reporting would not change our forecasting, nor would it lead to increased reliability. Bullet point one "using criteria developed by the standard drafting team using stakeholder input" is not practical. Each generator has varying equipment and circumstances, and will react differently to a similar weather condition. A sheltered unit may not require any heat tracing at all, while an outdoor unit would need all impulse lines insulated and traced. No standard can hope to encompass all the varying circumstances. Further, changes in technology could lead to use of methods not anticipated by a standard.
Yes
Winter weather varies greatly by region.

Yes
Winter readiness procedures would have to become controlled documents, and managed by compliance staff.
1. There is no need for a standard enforcing national winter readiness requirements. At best, a "best practice" document should be developed and shared with GO/GOPs to increase use of already tested practices in areas of similar winter weather, on similar equipment. 2. EOP-001 is not the proper place for adding winter weather standards. EOP-001 concerns actions of BAs, TOs, etc in dealing with IROL conditions. 3. The vast majority of equipment potentially covered by winterizing efforts is not part of the BES, so should not be subject to a standard.
Individual
Catherine Wesley
PJM Interconnection
No
PJM does not agree with the scope of the SAR. PJM believes that the subject issue is a regional issue and not a North American issue. PJM would point out that the weatherization requirements for non-enclosed power plants are significantly different than for enclosed power plants. PJM suggests that a more effective approach would be to share current information, experiences and proposals on this topic through the ERO. Another alternative would be to remand this issue to the regions for their own solutions. Additionally, PJM does not agree there would be an increased reliability benefit by moving forward with revising the existing EOP standards to universally require Generator Owner/Operators regardless of where they are located to develop, maintain, and implement plans to winterize plants and units prior to extreme cold weather, in order to maximize generator output and availability. This position is largely because this is covered by the IRO standards as written; and at best these should be regional guidelines as envisioned in TPL-005 as well as regional standards such as BAL-502-RFC-02. The occurrences of the generation shortfall during the winter weather event were specific to unseasonable weather in a specific region and the limited resources available in the Texas interconnection. The weather conditions for that region of the country were extreme. In other areas of the country where cold weather conditions such that were seen in the South occur more frequently, winterization of generating plants and unit equipment is performed to the level that is appropriate for that region. It seems unduly burdensome to impose additional winterization requirements via a continental standard on areas of the country where these extreme conditions rarely take place. From a reliability benefit, companies that presently do not perform winterization to the level that would be required to mitigate what occurred in the Southern cold weather event may be challenged from a financial perspective to adequately maintain such mitigation plans. This situation could possibly result in decreased reliability if those companies have competing operational and maintenance priorities and limited budgets. The scope suggests universal administrative procedures with very little actual reliability benefit. Whether a generator is located in a regulated or deregulated state, the cost of maintaining and implementing a winterization plan must be weighed against the likelihood of occurrence of an extreme weather event. It is illogical for a generator owner to invest money in a modifications today when the modifications may never be needed. While the ERCOT BA may not have known the GO/GOPs availability for the extreme weather conditions, the ERCOT BA performed correctly in shedding load to regain load and generation balance which is the purpose of EOP standards. In reviewing what additional changes may be considered to improve communication of operating information between the BA and GO/GOP, there appears to be a gap related to BAs, in that Generator Owners are not required by FAC-009-1 R2 to convey this generation capability information to their host BA, although they are required to notify their TOP. We suggest that FAC-009-1 R2 be revised to state: "R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), Balancing Authority(ies) and Transmission Operator(s) as scheduled by such requesting entities."
No
PJM does not support revisions to the EOP standards. PJM may support the addition of the BA as an applicable entity to FAC-009-1 R2.
No

This is not an area that fits well as a continental standard due to the differing climatic conditions faced by power plants in North America. We suggest no continental standard, as this is a localized issue regarding firm load, not an Interconnection issue. This requirement is essentially covered by the IRO standards as written; and at best these should be regional guidelines as envisioned in TPL-005 as well as regional standards such as BAL-502-RFC-02.

No

PJM reiterates that the event was a local load-serving issue that took place under extreme and rare weather conditions. PJM suggests that a more effective approach would be to share current information, experiences and proposals on this topic through the ERO. Another alternative would be to remand this issue to the regions for their own solutions.

Group

Reliability Issues Steering Committee

Chris Schwab (submitted by Andy Rodriguez, NERC)

NERC

No

The RISC believes that the scope of this SAR is excessive, and the reliability objectives can be addressed through alternative means. With respect to winter preparation by generators, a reliability standard is not the most effective and efficient way for NERC to ensure that GO/GOPs create, maintain, implement, and monitor winter weather preparation plans. See response to Q5 below.

No

As the RISC believes the scope of this SAR is excessive, we do not believe functional entities need to be specified.

No

No

The RISC believes there are better ways to address the identified concerns than through the development of new or revised standard(s). As such, RISC does not support this SAR. Further, the RISC believes non-standards actions can be completed expeditiously, prior to winter 2012/13. We suggest instead that an approach of education and awareness be used to address this concern: 1. We believe the NERC Operating Committee should develop a guideline that assists entities in preparing for cold weather. In order to be useful this winter, we suggest this guideline should be published to the industry no later than December 3, 2012. 2. We believe the OC and NERC staff should work together to annually remind entities of the need to prepare for cold weather. We believe initially this can be done through the use of Webinars and other approaches. We suggest the first of these Webinars should occur on or before December 14, 2012. 3. We believe NERC should develop training programs to educate the industry on the OC Guideline and cold-weather best practices. We suggest this training should be delivered annually and commence in Q3, 2013. 4. Longer term, we believe the OC should work with NERC and industry to establish a voluntary review process (possibly in collaboration with the NATF or NAGF), through which entities can verify their preparedness. We suggest these reviews could occur annually for some representative number of entities, and commence in Q3, 2013.

Group

FirstEnergy

Larry Raczkowski

FirstEnergy Corp

No

FirstEnergy (FE) does not agree that the scope of this SAR should be all-encompassing to the GO/GOPs. FE feels that a majority of GO/GOPs located in the winter climate are presently doing the winter preparation that is necessary.

Yes
No
Not aware of any Regional Variances that may be affected.
No
Not aware of any business practices that may be affected.
FE feels that this SAR is a test case for the newly formed RISC subteam and let RISC determine whether this SAR should move forward in the SAR process. Also, FE feels that the development of this SAR is one that should be more specific on a regional basis, ie, ERCOT, southern WECC or any region that is more volatile than a northern-base GO/GOP.
Individual
Don Jones
Texas Reliability Entity
No
If it is decided that a standard should be developed, we believe that the posted SAR is too limited in its scope. Extreme cold weather is only one of many issues that generators must prepare for. Texas RE feels that the scope should be revised to include all severe weather preparation conditions (e.g. extreme heat, extreme cold, winds, hurricanes, etc.) in order to maximize generator availability under each unit's stated design criteria. In addition, the scope of the SAR should include not only the planning aspect of extreme weather preparation, but also proper implementation of the plan during events, as well as annual reviews and/or post event reviews to incorporate lessons learned.
Yes
Current obligations in EOP-001's attachment point out responsibility for winterization of units and other factors, but the Generator Owner/Operator is left out of list of applicable entities in this standard. Texas RE supports this SAR's inclusion of the GO/GOP in some capacity.
No
Winterization may not be as great a concern in Northern climates, however if the consideration of extreme weather planning and preparation is adopted for this SAR, there is application to all Regions.
Yes
The Public Utility Commission of Texas (PUCT) rules (PUCT 25.53) currently requires entities to submit to the PUCT a summary of power plant weatherization plans and procedures, a hurricane plan, and an affidavit indicating that plant operating personnel are familiar with the contents of the emergency operations plan. In addition, there is a proposed ERCOT regional rule in draft that will require entities to submit their weatherization plans to the RC/BA, although its future is uncertain. ERCOT regional rules are fluid and can change relatively easily through a stakeholder process.
Standards provide for minimum requirements to support operation of the bulk power system in all conditions, including extreme conditions. While standards should not specify how generators will meet their stated design criteria (too many variables), events like that of February 2011 point out the importance of confirming preparations and options such as fuel-switching to address the extremes. In that event, both newer units and those operating for many years were affected, but very few were exposed to ambient temperatures outside their stated design criteria. Texas RE agrees with the NERC Operating Committee that development of guidance documents and best practices for winterization and extreme weather, coupled with encouragement of information sharing among generators, is needed in addition to any standard development. NERC's use of all these means can provide for the best balance of cost-effectiveness and reliability benefit.
Individual
Maggy Powell
Exelon Corporation and its affiliates
No
While Exelon supports a response to the issues raised within the Southwest Cold Weather Event report, it is not clear that revising EOP-001 to address cold weather concerns is the appropriate

mechanism. Below are a number of questions and comments regarding this project proposal that Exelon feels are important to consider before placing effort on the project outlined in the proposed Project 2013-01 SAR:

- Focusing on the specifics of the Southwest Cold Weather Event calls to question the value of writing a NERC-wide standard for parts of North America that cope with severe cold weather as part of their typical year. Should the project be limited to cold weather scenarios or can and should cold weather concerns be addressed within a broader effort to strengthen capacity reporting for any situation not just weather?
- The SAR does not discuss what is missing from the existing standards that makes them insufficient. What additional reporting is contemplated for inclusion in standards? It appears that some emphasis is given to providing BAs next day and during the day data; however, standards such as TOP-002-2 and TOP-003 may already cover information sharing relative to the issues. Greater clarity on specific reporting needs will be useful to understand the standard revision purpose and to avoid creation of duplicative requirements across multiple standards.
- Preparedness is important. Generators could and probably should have winter preparedness plans and follow those plans; however, a SAR should not impose any specific requirements or investment to winterize plants. Investments such as these are better handled by market mechanisms and state regulatory requirements.
- Some concern exists that a standard dictating cold weather protection may infringe on design basis criteria. Exelon cautions against any standard language that goes to design basis. Power plant design basis is complex and determined by multiple factors including local climate conditions. Standards that influence plant design to meet concerns of potential weather extremes may put at risk the design elements that meet prevailing local weather conditions. Any requirements that influence design basis require a thorough cost-benefit analysis.
- What roles do state level actions and market mechanisms play in resources adequacy? Adequacy regulations remain under the authority of the States. In regulated states, the state public service commission sets expectations for utilities in planning to serve firm load. In deregulated states, the market operator sets the resource adequacy goal and compensation mechanism for generators to achieve that goal. Market operators may be better equipped to address the cost of winterization into their market rules, based on the resource adequacy targets and the expectations the state commissions have of the market operator for serving firm load.
- Before proceeding with standard development, additional evaluation of all related factors and best tools available is warranted. However, in the meanwhile, dissemination of information on best practices and recommendations may be disseminated to generators in advance of this winter season with an explanation of the path forward beyond just a standard revision. Thank you for the opportunity to comment.

Group

Southern Company

Shammara Hasty

Operations Compliance

No

The scope of this SAR is excessive, unnecessary, and would prove costly to our customers while offering minimal value for the following reasons. 1)GOs/GOPs are already required to report unit availability to the RC for operational planning analyses/assessments (IRO-010-1a, R3) and to the BA/TOP as part of current day, next day, and seasonal operations planning (TOP-002-2.1b, R3). This is sufficient and thus no new standard, or revision to an existing standard, is necessary. 2)NERC's Standard Drafting Team, even with feedback from stakeholders, cannot develop specific criteria applicable to every generating unit's capabilities in extreme winter weather because of the diversity of climates, unit design, and unit location across the country. The scope and cost of an engineering analysis to identify potential freezing issues/problem areas at each specific generating site (and unit) would be extremely high and offer little benefit due to variable conditions (i.e. wind chill factor). These variables could render the study completely inaccurate. Additionally, design does not necessarily ensure generating capability. Generating capability is ensured by proper maintenance, operation, and when necessary, preparation for inclement weather. The focus should be on a generating unit's actual capability, as demonstrated based on historical performance, and not on

"anticipated winter weather." This implies temperature design limits have been reviewed for each generating facility and that units will operate during extreme weather. Verifying this would involve extensive analysis of each plant system and offer minimal actual value. 3)A single continental Winter Preparedness Standard, and the associated winter preparation plan, would not be sufficient due to climatic differences from region to region. Additionally, a regional specific standard would not provide the level of granularity necessary due to the differences from site to site. The site specific differences can range from design, to terrain, and even operating conditions. One example would be a site with only one unit compared to a site with multiple units inside the same boiler/turbine house (adjacent units online). The utility industry relies on lessons learned and identified Best Practices, and utilizes multiple forums to communicate this information to one another. The development of a continental, industry wide standard would make it very difficult to implement these industry identified lessons learned and Best Practices. 4)A predetermined plan cannot cover every possible winter scenario or circumstance, due to variable weather and operating conditions/circumstances, potentially rendering the plan inadequate and insufficient. Deviating from the predetermined continental Winter Preparedness plan under a new standard would effectively "handcuff" a utilities response (in order to avoid penalty), even if such deviation was done so with the best intent, to keep the generating unit online. Facilities should be afforded the flexibility to deviate from these plans, based on the unique circumstances of the event and the site(s) experiencing the event. A more suitable solution is a Winter Preparedness guideline for utilities to utilize that implements lessons learned and industry identified Best Practices.

No

We do not see a reason to include GO/GOPs in the EOP-001 standard as the following (currently active) NERC Reliability Standards/Requirements address the GO/GOP concerns expressed in this SAR: IRO-010-1a, R3: Each Generator Owner and Generator Operator shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. TOP-002-2.1b, R3: Generator Operator shall coordinate its current-day, next-day, and seasonal operations with its Host Balancing Authority and Transmission Service Provider. TOP-002-2.1b, R13: Generator Operator shall perform generating real and reactive capability verification that shall include, among other variables, weather, ambient air and water conditions, and fuel quality and quantity, and provide the results to the Balancing Authority or Transmission Operator operating personnel as requested. TOP-002-2.1b, R14: Generator Operators shall notify their Balancing Authority and Transmission Operator of changes in real output capabilities and characteristics. TOP-002-2.1b, R15: Generation Operators shall provide a forecast of expected real power output to assist in operations planning at the request of the Balancing Authority or Transmission Operator.

Yes

A single continental Winter Preparedness Standard, and the associated winter preparation plan, would not be sufficient due to climatic differences from region to region. Additionally, a regional specific standard would not provide the level of granularity necessary due to the differences from site to site. The site specific differences can range from design, to terrain, and even operating conditions. One example would be a site with only one unit compared to a site with multiple units inside the same boiler/turbine house (adjacent units online). The utility industry relies on lessons learned and identified Best Practices, and utilizes multiple forums to communicate this information to one another. The development of a continental, industry wide standard would make it very difficult to implement these industry identified lessons learned and Best Practices.

Yes

Market incentives are currently in place for generators to run if practical. Cost recovery mechanisms for compliance with a new standard, or modified standard, are not available.

There are adequate standards in place to address the reliable operation of the Bulk Electric System under a variety of conditions and shedding load in a controlled fashion, in an extreme event that occurs very infrequently, is and always has been part of the reliable operation of the overall system. Such is the reason there are load shedding schemes and FERC approved standards to address them. There is no need for a new standard or modification of an existing standard. GOs/GOPs should have the ability to respond, by any means necessary, to ensure unit reliability based on their experience with and operation of a generating facility/unit.

Individual

Oliver Burke

Entergy Services, Inc. (Transmission)

No

Cold weather events are one example of ambient conditions under which BES components (lines, relaying, breakers, transformers and generators) must perform. While GO/GOPs should know and communicate the capabilities of the generating units under their authority, the recent issue that initiated this SAR was extreme loss of load in a BA. While load is intended to be served almost all the time, there are going to be points in time during which not all load can be served while maintaining real-time reliability. The grid and those generators that are connected to it and operating at the time of a power system disturbance must be protected without fail. The ERCOT BA performed correctly in shedding load to regain load and generation balance. NERC standards do not assign the responsibility to "serve all firm load - all the time" to any entity. Fundamentally, doing so would be in opposition to EAct of 2005's prohibition against FERC / ERO passing adequacy standards. Adequacy regulations remain under the authority of the States. In regulated states, the state utilities commission sets expectations for utilities in planning to serve firm load. In deregulated states, the market operator sets the compensation mechanism for generators, and market operators should address the cost of winterization into their market rules, based on the expectations the state utilities commission has of the market operator for serving firm load. In deregulated states, generators will weigh the benefit of any winterization project against the cost to implement. The benefit must be weighed with the likelihood of occurrence of an extreme weather event. In the event that initiated this NERC effort, the cold weather with high winds experienced then had last struck the Texas area about twenty years ago. It is illogical for a generator owner to invest money in a project today when the project becomes useful only once in twenty years. Reasonably, the market operator would develop a compensation mechanism for assuring that generators would be available under certain stressful climatic conditions. While there may be some mechanism of this kind developed as a compromise position, it is also illogical for a market operator to cause an investment of this kind by generator owners since it has such a poor return on investment for the ratepayers. Winterization of power plants is a complex undertaking. 1. The design basis for power plants is different in different climates. Power plants are designed to meet highly probable local climatic conditions. Plants in northern parts of North America are typically constructed with closed turbine buildings and extensive cold weather mitigation plans, procedures and apparatus. Plants in southern areas of North America have the opposite problem of prolonged high heat in summer. These plants are typically constructed with open turbine buildings. For example, if one owns an automobile in northern areas of North America, an engine block heater is required to be plugged in over-night if the driver expects to be able to crank the engine after a cold night. Yet, in the south, engine block heaters are almost unknown, due to the differing climate in the south. Just as there is no national standard for engine block heaters, there should not be a national standard for design or winterization of power plants. 2. Typically, a new plant is designed and constructed, but the actual capability of the new plant in cold weather is not known until it experiences a significant period of cold/windy weather. The actual performance of such a plant before the first such cold weather event is unknowable (many of the systems and much of the equipment is embedded deeply within structural components, making direct testing highly impractical.) The Texas event had several relatively new generators affected by this phenomenon. The first such event in the life of a power plant tends to expose weak points, which are then addressed based on cost/benefit analyses. In open turbine buildings across the south, various temporary measures are taken when extreme cold is forecasted, such as erecting temporary wind breaks and adding temporary portable heaters. Over time, best practices have emerged that are simple enough to be executed when a period of extreme cold weather is forecasted. These are typically shared among plants operated by a single entity. The Generator Forum may be the best entity to pursue development of continental winterization best practices. Notwithstanding the above, BAs with load obligations should understand the capabilities of generators that contribute to meeting their next-day and current day loads under the ambient conditions expected for those peak periods. GO/GOPs are currently responsible to (1) determine and (2) provide this information to the TOPs. The GO currently must comply with "Determine": FAC-008-1 R1. The Transmission Owner and Generator Owner shall each document its current methodology used for developing Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities. The methodology shall include all of the following: ... R1.3.2. Design criteria (e.g., including applicable references to industry Rating practices such as manufacturer's warranty, IEEE, ANSI or other standards). R1.3.3. Ambient conditions. R1.3.4. Operating limitations.

.... And "Provide Information": FAC-009-1 R1. The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology. R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities. There appears to be a gap related to BAs, in that Generator Owners are not required by FAC-009-1 R2 to convey this generation capability information to their host BA, although they are required to notify their TOP. We suggest that FAC-009-1 R2 be revised to state: "R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), Balancing Authority(ies) and Transmission Operator(s) as scheduled by such requesting entities."

No

We believe that the BA should be added to FAC-009-1 R2, but that no new EOP standards are needed. In addition, EOP-001-2.1b is applicable only to BAs and TOPs. Requirement R4 states: Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1-EOP-001 when developing an emergency plan. However, Attachment 1 – EOP 001 includes elements that are only under the control of GOs and GOPs. These include: 1. Fuel supply and inventory — An adequate fuel supply and inventory plan that recognizes reasonable delays or problems in the delivery or production of fuel. 2. Fuel switching — Fuel switching plans for units for which fuel supply shortages may occur, e.g., gas and light oil. 10. Maximizing generator output and availability —The operation of all generating sources to maximize output and availability. This should include plans to winterize units and plants during extreme cold weather. Even though R4 includes the word "applicable", these elements only under control of GOs and GOPs are not aligned properly to TOPs and BAs. Rather, the GO and GOP should be added as applicable entities to EOP-001, as they are the entities in control of these elements of Attachment 1. We specifically do not endorse any significant expansion of this requirement beyond what is described above and we do not support any new proscriptive requirements for winterization due to the variety of approaches that are necessary across North America to address local weather extremes.

Yes

This is not an area that fits well as a continental standard due to the differing climatic conditions faced by power plants in North America. We suggest no continental standard, as this is a localized issue regarding firm load, not an Interconnection issue.

Yes

As outlined in our comments above, Market Operators in deregulated states may need to review the qualification rules for generators to participate in the market. There may need to be a compensation mechanism developed for generators that are expected to operate without failure in an extreme cold weather event.

As stated above, this is essentially a question of adequacy under extreme conditions, that properly belongs to the States, and should not be included in NERC standards. We support the collection and dissemination of generator winterization best practices by the appropriate groups. We firmly believe that no single continental standard is merited nor would it be useful in improving BES reliability.

Additional Comments Received:

Public Service Enterprise Group

1. Do you agree with this scope? If not, please explain.

Yes

No

Comments:

The SAR "Purpose" states the following.

1. Report generating unit capabilities based on anticipated winter weather events.
2. Increase reliability of generating units during winter weather events.

THE FIRST PURPOSE OF THE SAR

TOPs should understand the capabilities of ALL facilities, including generators, that contribute to meeting their next-day and current day loads under the ambient conditions expected for those peak periods. GOs/GOPs are currently responsible to (1) determine and (2) provide this information to the TOPs. A GO currently must comply with:

1. FAC-008-1 R1. The Transmission Owner and Generator Owner shall each document its current methodology used for developing Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities. The methodology shall include all of the following:

...

R1.3.2. Design criteria (e.g., including applicable references to industry Rating practices such as manufacturer's warranty, IEEE, ANSI or other standards).

R1.3.3. Ambient conditions.

R1.3.4. Operating limitations.

....

2. These following requirements under FAC-009-1 required entities to "provide information:"

R1. The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology.

R2. The Transmission Owner and Generator Owner shall each provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Authority(ies), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities.

There appears to be a gap related to BAs, in that Generator Owners are not required by FAC-009-1 R2 to convey this generation capability information to their host BA, although they are required to notify their TOP. We suggest that FAC-009-1 R2 be revised to include BAs:

3. Finally, a GOP must comply with TOP-002-2.b, R14 and R14.1.

R14. Generator Operators shall, without any intentional time delay, notify their Balancing Authority and Transmission Operator of changes in capabilities and characteristics including but not limited to:

R14.1. Changes in real output capabilities.

As described in the three standards above, the first purpose of the SAR (report generating unit capabilities based on anticipated winter weather events) is already addressed in existing standards.

Except for the minor modification recommended for FAC-009-1 R2, generators must already comply with several standards that address reporting of generating unit capabilities to BAs and TOPs. Therefore, no new standards are required to achieve this purpose in the SAR.

THE SECOND PURPOSE OF THE SAR

The second purpose of the SAR (increase reliability of generating units during winter weather events) is addressed below.

Section 215 of the Federal Power Act is the framework for NERC and FERC with regard to the development and enforcement of Reliability Standards in the U.S. The terms “bulk-power system,” “reliability standard” and “reliable operation” are defined in Sections 215 (a) (1), (a)(3) and (a)(4) as follows:

The term “bulk-power system” means —

- (A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and
- (B) electric energy from GENERATION FACILITIES needed to maintain transmission system reliability. (Capitalization added for emphasis.)

The term does not include facilities used in the local distribution of electric energy.

The term “reliability standard” means a requirement, approved by the Commission under this section, to provide for reliable operation of the bulk-power system. The term includes requirements for the operation of existing bulk-power system facilities, including cybersecurity protection, and the design of planned additions or modifications to such facilities to the extent necessary to provide for reliable operation of the bulk-power system, but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.

The term “reliable operation” means operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.

These definitions can be applied to the second purpose of the SAR.

1. Referring to the definition of “bulk-power system,” the Southwest cold-weather outages were not caused by failures of the “facilities and control systems necessary for operating an interconnected electric energy transmission network.” The outages were a direct result of the unanticipated failure of certain generation facilities. However, the remaining generation facilities provided enough “electric energy... to maintain transmission system reliability.” The bulk-power system, as defined by Section 215, operated reliably.
2. A reliability standard is a requirement that provides for the reliable operation of the bulk-power system. Had generators caused the Southwest cold-weather event outages by initiating failures of the bulk-power system, standards to remedy that scenario might be

appropriate. But that was not the case. Except for the electric energy required to maintain transmission system reliability, RELIABLE OPERATION OF THE BULK-POWER SYSTEM CAN OCCUR WITHOUT ADEQUATE GENERATION. Therefore, no reliability standard can address a reliability issue due to inadequate generation as occurred for the Southwest cold-weather event. The second purpose of the SAR, which is intended to increase the availability generators during winter events, is a generator adequacy issue that is simply outside of the boundaries of Section 215.

3. Finally, the proposed definition of Adequate Level of Reliability notes that while NERC may assess adequacy, it may not set standards for adequacy.

The amount of installed generation required to reliably serve firm load is largely determined by individual generator performance. While not permitted under Section 215, generator performance and adequacy requirements exist in other venues. For example, ancillary service schedules in an Open Access Transmission Tariffs (OATTs) allow generators to voluntarily offer to provide various ancillary services. If a generator's offer is accepted and it fails to provide the promised performance, the generator may incur monetary penalties. Generators in organized markets are incented to have their units available during extremely cold or hot weather when spot prices are at their highest. In markets with capacity requirements, generator unavailability may result in diminished capacity payments. In non-market areas that are subject to cost-of-service regulation, state or local regulators set rates for the recovery of the capital and operating costs of rate-based generators. These regulators may impose penalties for the imprudent operation of a generator. In organized markets where generators are not subject to rate-based regulation, imprudent operation is punished by the market.

Organized markets and non-market areas with traditional cost-of-service regulation are the appropriate forums to address generator performance requirements that will promote the availability of generators under cold-weather conditions.

2. The SAR identifies a list of reliability functions that may be assigned responsibility for requirements in the set of standards addressed by this SAR. Do you agree with the list of proposed applicable functional entities? If no, please explain.

Yes

No

Comments: As noted in response to the question 1, PSEG believes that the entire SAR is not lawful pursuant to Section 215. We also note that BAs should be added to FAC-009-1 R2.

3. Are you aware of any regional variances that will be needed as a result of this project? If yes, please identify the Regional Variance.

Yes

X No

Comments: No because we believe the SAR is unlawful under Section 215.

4. Are you aware of any business practice that will be needed or that will need to be modified as a result of this project? If yes, please identify the business practice.

Yes

No

Comments: Organized markets as well as state and local regulators are the venues to address generator adequacy issues, including the availability of generation during cold weather, not Section 215.

5. If you have any other comments on this SAR that you haven't already mentioned above, please provide them here.

Comments: PSEG believes that meeting extreme weather conditions of the Southwest cold-weather event raised a generator adequacy issue that properly belongs to organized markets as well as state and local regulators and should NOT be included in NERC standards because it is outside of the boundaries of Section 215. We support the collection and dissemination of generator winterization best practices by the appropriate groups, such as the North American Generator Forum (NAGF).

We also note that this issue had been submitted to the Reliability Issues Steering Committee for their consideration by Allen Mosher, chair of the Standards Committee.

Finally, the NERC Operating Committee pre-announced its SAR comments, which recommended changes to EOP-001-2.1b, a standard that is only applicable to BAs and TOPs. Requirement R4 states: "Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1-EOP-001 when developing an emergency plan."

Their comments note that Attachment 1 – EOP 001 includes three elements that are only under the control of GOs and GOPs.

These include:

1. Fuel supply and inventory — An adequate fuel supply and inventory plan that recognizes reasonable delays or problems in the delivery or production of fuel.

2. Fuel switching — Fuel switching plans for units for which fuel supply shortages may occur, e.g., gas and light oil.
3. Maximizing generator output and availability —The operation of all generating sources to maximize output and availability. This should include plans to winterize units and plants during extreme cold weather.

Even though R4 is only applicable to BAs and TOPs, since elements are under control of GOs and GOPs, the Operating Committee suggests that the GO and/or GOP be added as “applicable entities” to EOP-001, as they are the entities in control of these elements of Attachment 1.

PSEG DOES NOT ENDORSE the Operating Committee’s recommendation because all of these items are related to generator performance, and therefore generator adequacy. Because all of the requirements are directly related to generation adequacy, they are outside the boundaries of Section 215. They are properly addressed by either organized markets or by state or local regulators.