

Meeting Notes

Project 2024-03 Revisions to EOP-012-2 Drafting Team In-Person Meeting

January 7, 2025 | 9:00 a.m. – 5:00 p.m. Central
January 8, 2025 | 8:30 a.m. – 5:00 p.m. Central
January 9, 2025 | 8:30 a.m. – 12:00 p.m. Central

Occidental Oil & Gas Corp (OXY)
5 Greenway Plaza,
Houston, Texas
77046

Day One

Introduction and Chair's Remarks

The meeting started at 9:00 a.m., Central. Safety briefing was provided by Venona Greaff, from OXY.

NERC Antitrust Compliance Guidelines and Public Announcement

The NERC Antitrust Compliance Guidelines, NERC Participant Conduct Policy, and the Public Announcement were presented and reviewed by the secretary.

Agenda Items

1. Introduction

- a. The Chair welcomed the Drafting Team (DT) members and the participants from the industry. See **Attachment 1** for those in attendance.
- b. Attendance was taken and the quorum was met.
- c. The agenda was reviewed and approved by the DT.

2. Develop Draft of Standard, Implementation Plan, VRFs and VSLs

- a. The chair provided the first additional posting results. Due to the low percentage of the support from the industry and project timeline, NERC advised the DT that the Rule 321 Section 5 will be proposed to Board of Trustees on January 10, 2025.
- b. The chair asked volunteers to share a summary of the industry comments received from the additional posting. David Lemmons will share NAGF's comments; Dane Rogers will share the MRO NSRF comments; Vince Stefanowicz will speak for ISO/RTO comments; Brad Pabian will go over the EEI comments.

Vince Stefanowicz: Freeze protection measures are not intended to be limited to optimum practices, methods, or technologies, but are also intended to include practices, methods, or technologies that would reasonably be expected to result in effective facility performance while operating at the Extreme Cold Weather Temperature.

Curtis Crews: Generator Cold Weather Constraint – Any condition that would preclude a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components. Viable freeze protection measures include practices, methods, or technologies that have been successfully implemented by the electric industry in areas that experience similar winter climate conditions and are not intended to be limited to optimum practices, methods, or technologies.

"Viable" was bolded but did not come through---Think that was the MRO NSRF comment.

David Lemmons: ?From EEI: Viable freeze protection measures include practices, methods, or technologies that have been successfully implemented by the electric industry in areas that experience similar winter climate conditions and are not intended to be limited to optimum practices, methods, or technologies.

Dane Rogers: MRO NSRF's comments: Viable freeze protection measures include practices, methods, or technologies that have been successfully implemented by the electric industry in areas that experience similar winter climate conditions and are not intended to be limited to optimum practices, methods, or technologies.

David Lemmons: Of the two options (IRC v. EEI/MRO), the EEI option is better as it removes anyone's opinion from the evaluation. If it has been successfully implemented, then it is cleaner than reasonably expected.

Blade icing has nothing to do with the ECWT. Blade icing is not freezing, it is accumulation of precipitation.

Jill Loewer: Freeze protection measures include practices, methods, or technologies that the electric industry has implemented and determined to be viable by the electric industry in areas that experience similar winter climate conditions and are not intended to be limited to optimum practices, methods, or technologies"

Similar freezing precipitation

David Lemmons: Not sure how that would be determined. Rate of accumulation, normal humidity, etc?

Vince Stefanowicz: For generating units that began commercial operation before October 1, 2027, the implementation of a specific freeze protection measure would require exceeding a structural limitation of, or otherwise reasonably be expected to functionally impair the effective operation of, a specific component that is necessary to the safe and effective operation of the generating unit or facility.

David Lemmons: Based on the comment provided by the NAGF in response to question1, there would be a great deal of concern related to the proposed date in the above wording.

Don't forget that the ECWT can change over time.

Pamela Frazier: Alternative proposal ...Implementation of a freeze protection measure that would require exceeding a manufacturer's design limitations and the exceedance is expected to functionally impair or degrade the effective operation of a specific component that is needed for the safe and effective operation of the generating unit or facility.

Dane Rogers: Implementation of a freeze protection measure that would require exceeding a manufacturer's design limitations and the exceedance is expected to functionally impair or degrade the effective operation of impacted component or system.

David Kezell: The implementation of a specific freeze protection measure would exceed a manufacturer's design limitation and the exceedance is expected to functionally impair or degrade the effective operation of the impacted component or system.

Vince Stefanowicz: which may be supported by an analysis of industry best practices and the state of proven technologies), that the freeze protection measure has been shown to be ineffective or could reasonably be expected to be ineffective in enabling facility performance while operating at the ECWT.

David Lemmons: Where would we find an analysis of industry best practices?

Prefer the existing language.

Pamela Frazier: Agree. I'm getting a bit lost in this new wording.

Curtis Crews: A determination, through an analysis, that the freeze protection measure has been shown to be ineffective or that there is no record that such a measure has been effectively utilized on generating unit(s) of comparable types in regions that experience similar winter climate conditions.

David Lemmons: NAGF does not agree with the language being struck here. It would require proof of not being effective. How does this address a new technology?

Curtis Crews: A determination, through an analysis, that the freeze protection measure has been shown to be ineffective or that there is no record that such a measure has been effectively utilized could reasonably be expected to be ineffective when utilized on generating unit(s) of comparable types in regions that experience similar winter climate conditions.

Just channeling DK comments.

Lauren Perotti: A determination, through an analysis, that the freeze protection measure would not be effective for the generating unit. Such a determination may be supported, for example, by experience with the measure on generating unit(s) of comparable types in regions that experience similar winter climate conditions.

would = is not expected to be

Curtis Crews: can we add "freeze protection" in front of "measure" in second sentence?

A determination, through an analysis, that the freeze protection measure would not be effective for the generating unit. Such a determination may be supported, for example, by experience with the freeze protection measure on generating unit(s) of comparable types in regions that experience similar winter climate conditions.

David Lemmons: And that information is not available to the general industry! It might work elsewhere, for example different weather patterns, etc. If someone does find something that works, they will be trying to sell it!

An attestation from a senior officer.

Sorry, but just the RC is not acceptable in all areas of the country.

Pamela Frazier: We actually discussed that the TP may have the best input and often the BA and RC are the same entity

Jill Loewer: Here is an ISO-NE video on how to retire an asset: To retire an asset, the Lead Market Participant of the asset must initiate the retirement in the Customer and Asset Management

System (CAMS); please reference our brief training video (12 min), How to retire an asset using the Customer and Asset Management System (CAMS).

How to Retire an Asset in CAMS

This is "How to Retire an Asset in CAMS" by ISO New England Training on Vimeo, the home for high quality videos and the people who love them.

Sing Tay: I think under the new TPL-008, the TP and PC are the ones who will need to assess impacts in their regions due to extreme weather.

Vince Stefanowicz: clearly delineated fuel supply restrictions imposed for technical or physical reasons by the generating unit's fuel supplier that the generating unit has communicated to its Reliability Coordinator or Balancing Authority

David Lemmons: Probably need to ensure the language is correct. Is it the Fuel Supplier or the Fuel Transportation Provider. That is already covered by what it says here I believe. So already included in the plan? In addition, any constraint requires a modification to the information as appropriate. I agree the fuel constraint should have been communicated. But that should not be included in this discussion.

Whether a communication has occurred has no impact on whether there is an issue that will prohibit the freeze protection measure from being effective.

They should be asking for this information (Attachment 1, case #9) any time it changes.

Vince Stefanowicz: I have one more IRC comment that Becky can cover next. I need to step away for a few minutes.

David Lemmons: How does the CEA determine if it has been provided? And is it important if it is being used in any certain manner?

Elizabeth Davis: When submitting a Generator Cold Weather Constraint declaration to the CEA per Requirement R8, the Generator Owner must include documentation that defends and supports the declared constraint and also describes other compensating or mitigating freeze protection measures, if applicable, that the Generator Owner will apply. If a Generator Cold Weather Constraint declaration indicates that the application of a specific freeze protection measure or measures would adversely affect the reliability of the Bulk-Power System to an extent that outweighs the reliability benefit of applying the freeze protection measure(s), the documentation that defends and supports the constraint should include any assessment that the applicable Balancing Authority or Reliability Coordinator might agree to provide concerning the impact to the reliability of the Bulk-Power System if the constraint were to be granted. An approved Generator Cold Weather Constraint declaration for any specific Generator Cold Weather Critical Component does not relieve the Generator Owner of its obligation to otherwise prepare its applicable generating unit(s) to meet the requirements of EOP-012-3, and does not in any way purport to relieve the Generator Owner of any other legal obligations or requirements outside of the requirements of EOP-012-3, including tariff, regulatory, or statutory obligations or requirements.

David Lemmons: I am concerned with the last proposed change. This document is not the appropriate document to determine what other rules might apply.

As written, this is not requiring anything. We should do something. Does not mean it is the only way to do it. Nor does it mean you have to go to anyone to get their support.

Becky Davis: At a minimum, would need to keep: An approved Generator Cold Weather Constraint declaration for any specific Generator Cold Weather Critical Component does not relieve the

Generator Owner of its obligation to otherwise prepare its applicable generating unit(s) to meet the requirements of EOP-012-3 or add in an EOP-012-

David Lemmons: I don't see a need for it to be here, but not opposed to it being left here. I do not see anything in the standard that says any single constraint alleviates your obligations under the standard.

Pamela Frazier: Adding this to the TR will allow the CEA some discretion based on the situation. There will be circumstances where it is apparent to everyone that the constraint has no reliability impact. Let's don't tie the hands of the GO & CEA to go through additional steps when there's clearly no reliability

Curtis Crews: The existence of a Corrective Action Plan should not discourage the Generator Owner from applying any other actions necessary and feasible to prepare a unit to perform at extreme cold weather temperatures during the Corrective Action Plan implementation period---
Current language in the TR

With all Generator Cold Weather Constraints, it is the responsibility of the Generator Owner to provide supporting materials to facilitate approval and validation of the Generator Cold Weather Constraint by the ERO Enterprise. Also in the TR

MRO NSRF:

Dane Rogers: 6.3.5.2. For other generating unit(s) owned by the Generator Owner, within 24 calendar months of completion of the review required in section 6.2.

Lauren Perotti: eLibrary | File List

David Lemmons: Unfortunately, 9 months to develop the standard does not leave much time to discuss options other than exactly what FERC used as examples.

Does the SDT want to vote on whether to make changes (on 24 calendar months in R6.3.5.2)?

NAGF:

David Lemmons: 1. Recommend to change Attachment 1, identify Known Generator Cold Weather Constraints October 1, 2027 to 2032. DT is considering modifying the commercial operation date. Will discuss more on this.

2. Requirement 6 footnote 10 related issue (R6.1 & R6.2. The DT is considering adding Requirement R8.4 to accommodate the comment.

Curtis Crews: If an entity determines a Generator Cold Weather Constraint is required for a unit, then subsequently has another unit that requires declaration of the same Generator Cold Weather Constraint (e.g., the same issue occurred at another location with implementing a freeze protection measure) an update to the original Generator Cold Weather Constraint is allowed. Note that supporting information for the other site is needed and the submittal/review timelines (per Requirement R8 and this process) will remain the same for the "new" addition. This will allow a Generator Owner to perform the 36-calendar month review of the Generator Cold Weather Constraint for both instances at the same time.

Brad Pabian: Adding R8.4: If a validated declared Generator Cold Weather Constraint exists for a generating unit(s), a Generator Owner that experiences a Generator Cold Weather Reliability Event for the generating unit(s) shall review the cause(s) of the Generator Cold Weather Reliability Event. If the cause(s) are the same for the existing validated Generator Cold Weather Constraint, no Corrective Action Plan or subsequent re-declaration of the Generator Cold Weather Constraint is required.

Curtis Crews: WECC appreciates the efforts in clarifying this Requirement. The DT should consider adding additional language to clarify the following: If a unit has a Generator Cold Weather Reliability event and creates a CAP then subsequently declares a Generator Cold Weather Constraint—what happens if another GCWRE occurs for the same cause (e.g., blade icing)? Standard language tends to possibly be interpreted as requiring a new CAP and new declaration. A footnote exists for updating a CAP and the NERC process covers updating Generator Cold Weather Constraints for “other” units. Suggest the following:

8.4 If a validated declared Generator Cold Weather Constraint exists for a generating unit(s), a Generator Owner that experiences a Generator Cold Weather Reliability Event for the generating unit(s) shall review the cause(s) of the Generator Cold Weather Reliability Event. If the cause(s) are the same for the existing validated Generator Cold Weather Constraint, no Corrective Action Plan or subsequent re-declaration of the Generator Cold Weather Constraint is required.

M8 Language: Each Generator Owner shall have dated evidence that demonstrates it performed the actions in accordance with Requirement R8. Acceptable evidence may include, but is not limited to, the following dated documentation (electronic or hardcopy format): a copy of the Generator Cold Weather Constraint declaration, evidence the declaration was provided to the Compliance Enforcement Authority in accordance with the specified timeframe, records that document update(s) to the operating limitations, as needed, and updated Corrective Action Plan(s), if applicable, and documentation of Generator Cold Weather Reliability Event cause reviews.

David Lemmons: 3. Concerned with Requirement R6.1 language. The DT made some minor modifications.

4. Concerned with FERC Order on ERO process. DT will not get involved.

Becky Davis: Suggesting to add a time limit to R6.4 (like “shall submit a CAP extension 60 days ...”).

Curtis Crews: Entities are encouraged to submit the extension request as soon as they are aware they will not meet the CAP completion date, but no later than 60 calendar days before the original required completion date. The 60-day timeframe provides the submitting entity and the CEA sufficient time to have discussions, as needed, prior to the required completion date. It is the submitting entity’s responsibility to ensure that all information detailed in EOP-012-3 Part 6.4 or Part 7.2 and requested in Align is provided in the entity’s extension request to facilitate the review.

From the "Process" document.

David Lemmons: The NAGF comments ask for that to be changed to ensure the CEA does not deny the request based on the deadline.

David Kezell: Proposing the following -- 6.4 Within 45 days of becoming aware that it will be unable to complete . . . one or more ...

David Lemmons: That is better than a deadline of days prior to the deadline.

Pamela Frazier: So does it make sense to now require a new audit point? Now auditors must ask for proof of when the entity became aware.

Does this additional point to audit provide a reliability benefit?

David Lemmons: If the 45 days goes past the CAP deadline, does it "automatically" extend the deadline?

Pamela Frazier: well all requirements should provide a reliability benefit

David Lemmons: I think it is cleaner/better to not have this deadline.

Pamela Frazier: The process document is where the expectation should be listed

otherwise we are asking auditors and entities to do additional work with no reliability benefit

David Lemmons: Without providing reliability benefits.

- c. Three votes were taken during the first day
- d. Action items after the first day: David Lemmons is working on R8.4; Brad Pabian is working on Attachment 1, #4
- e. Three votes were taken during the meeting on the first day:
 - 1. Attachment 1, paragraph 2 voting to leave it as it is (12 voted yes and 1 absent);
 - 2. Vote on the last paragraph to move the first part to the Technical Rationale document (12 voted yes and 1 absent);
 - 3. 6.3.5.2 to stay with 24 months (10 voted yes, 2 voted no, 1 absent).

3. Adjournment

The meeting was adjourned at 4:55 p.m., Central, by consent.

Day Two

Introduction and Chair's Remarks

The chair kicked off the meeting at 8:30 a.m., Central.

NERC Antitrust Compliance Guidelines and Public Announcement

The NERC Antitrust Compliance Guidelines, NERC Participant Conduct Policy, and the Public Announcement were presented and reviewed by the secretary.

Agenda Items

1. Introduction

- a. The Chair welcomed the Drafting Team (DT) members and the participants from the industry. See **Attachment 2** for those in attendance.
- b. Attendance was taken and the quorum was met.

2. Develop Draft of Standard, Implementation Plan, VRFs and VSLs

- a. The DT continued to review the comments received from the additional posting.
- b. The DT reviewed the SAR to make sure that the project scopes were met and all of the FERC Directives were satisfied.
- c. Seven votes were taken during the meeting on the first day:
 1. Vote to modify Attachment 1, case by case constraint #4 (all 13 members voted yes);
 2. Leave know constraint bullet 3 alone (10 voted yes and 3 voted no);
 3. Vote on making sub-bullets with Known GCWC (9 voted yes and 4 voted no);
 4. Vote on making the second bullet as another sub-bullet (d) (9 voted yes and 4 voted no);
 5. Voting on leaving 24 months in Requirement R6 (9 voted yes and 4 voted no);
 6. Vote on no changes needed for EEI's 3rd comment related to R2 (8 voted yes, 1 voted no, 4 abstained);
 7. Vote on EEI comment #4 36 calendar months vs. 3 calendar years (vote to stay with 36 calendar months) (11 voted yes, 0 voted no, 2 abstained).
- d. Meeting discussion:

David Lemmons worked on draft of WECC proposed 8.4 language (new requirement)

WECC Proposed Language:

8.4 If a validated declared Generator Cold Weather Constraint exists for a generating unit(s), a Generator Owner that experiences a Generator Cold Weather Reliability Event for the generating unit(s) shall review the cause(s) of the Generator Cold Weather Reliability Event. If the cause(s) are the same for the existing validated Generator Cold Weather Constraint, no Corrective Action Plan or subsequent re-declaration of the Generator Cold Weather Constraint is required.

Greybeard Alternative Proposed Language:

8.4. A Generator Owner that has a generating unit experience a Generator Cold Weather Reliability Event that the Generator Owner determines was due to the same cause as a previous Generator Cold Weather Reliability Event for which a Generator Cold Weather Constraint was validated (approved?) at the same or similar unit(s), the Generator Owner shall document that the event falls under its existing Generator Cold Weather Constraint and provide notice to the CEA.

each Generator Cold Weather Constraint declaration validated by the CEA

Charles Young (SPP) asks what would this be used for? Who determines that it is the same cause? David L. says it's the GO who determines the cause. Charles asks would the CEA still have to approve? Curtis mentions there is a draft form for submitting a Constraint Declaration to the CEA and agrees that constraint conditions will possibly occur multiple times during a winter season. Curtis mentions WECC is also testing Align for this Constraint Declaration process. Pamela F. says it is still up to the GO to determine the cause of the issue (like what is done in filing a self report)...aligns with existing processes. Eric Oben asks if a GO experiences a GCWRE and agrees that they shouldn't have to redeclare a constraint but that wouldn't the CAP has to be updated? Curtis says a CAP only needs to be updated if there is something that has to be done...may not always be the case. Charles asks about clarifying about what is a generating unit. Curtis says this has already been covered. David L. says there is some confusion in the industry about IBRs and is an inverter a generating unit? Are we validating the constraint or the declaration?

Michael Jenkins asked: If a generator has a winter event failure whose cause appears as the subject of an extent of conditions from a previous years corrective action plan at another station, how does that change the completion timeline of both corrective action plans? Pamela says: The original event will be on the same timeline, the new event will have a longer timeline. The new event would have to be corrected by the next winter. David K. suggests language – CAP must be done “the earlier of” timeline type phrase. David L. asks Why do we have to close out the first CAP and then have to create a second CAP? Curtis clarifies CEA only needs to see CAP extension requests, not necessarily the original CAP. Jill L. suggests 8.4 could benefit from some sub requirements to address CAP timelines and constraint no redeclaration needed. David

L. says it's already covered under R6 so not needed. 8.4 language redline addition to Standard. Slightly modified from David L.'s original draft.

Canadian Entity comments:

Manitoba Hydro – Duane Franke page 21

The EOP-012-3 Generator Cold Weather CAP Extension and Constraint Process indicates “ The extension requests for a non-US Registered Entity should be implemented in a manner that is consistent with, or under the direction of, the applicable governmental authority or its agency in the non-US jurisdiction.” But the standard requirements R6,R7,R8 specify the CEA and footnote 11&12 were removed. In our province the CEA and the applicable government authority are different entities.

Manitoba Hydro recommends footnote 11 and 12 are added back to the standard and that for non-US Registered Entities, this additional language/guidance be added to footnote 11 and 12: Prior to the implementation of any element of a Corrective Action Plan developed in accordance

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Manitoba Hydro recommends that for non-US Registered Entities: Prior to the implementation of any element of a Corrective Action Plan developed in accordance with this Requirement all applicable corporate, regulatory, provincial, and federal evaluations and approvals must be completed and obtained. The applicable timeline for implementation of a Corrective Action Plan shall be determined by the Registered Entities Generator Owner.

A concern with Requirement R6 is that many outages, derates, and start-up failures would have no relationship to the fact that the weather happens to be below freezing when they occur, and an implicit requirement to investigate all outages and derates to rule out freezing equipment and freezing precipitation as causes would result in a disproportionate compliance burden on Canadian entities in regards to documenting which event is a cold weather event and how to differentiate these events from other outages.

Manitoba Hydro – Duane Franke Page 82

Manitoba Hydro recommends all dates specified in R2 include: In non-US jurisdictions, use the effective date for the EOP-012-3 standard, as the applicability criteria for the Generator Owner first contractual commitment to

design criteria, thus avoiding retroactively imposing compliance obligations through new or revised requirements.

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Reviewing the Generator Cold Weather Constraints declaration more frequently than reviewing the Generating Unit's Cold Weather Preparedness plan (R1 - 5 calendar years) will not improve BES reliability in Manitoba where we seasonally operate near our ECWT for extended periods of time. Our generating units must operate reliably every winter season. Reviewing Generator Cold Weather Constraints every 36 months to see if they remain valid will be an additional administrative burden for utilities operating in Canada.

Manitoba Hydro suggests putting footnote 11 and 12 back in. Curtis says the NERC process document has some language about this...he suggests Canadian Entities draft a SAR to request a Regional Variance. Lauren says that some representative found it more confusing...maybe we should put it back? Constantin C says...Canada has different CEAs. They are working on a Canadian variance but would prefer the points be addressed in the Standard if possible. May consider adding back in the footnotes.

Second point about many outages in Canada during the winter would require a lot of work...not necessarily all GCWRE...maybe needs a different definition in Canada. Alison O. says she was on the call w/ the Canadian entities and Lauren P. – is there a draft of a Canadian variance being put together...Constantin says yes but it's not done. Team decided and agreed that we should table the Canadian comments now and wait for the Canadian Variance SAR that is being drafted.

David K. topic on Attachment 1 known constraints:

Individual wind turbine towers manufactured prior to October 1, ~~2027~~ 2025 that have structural limitations established by Original Equipment Manufacturers (OEMs) based on a minimum temperature that is higher than the Extreme Cold Weather Temperature calculated per Requirement R1 for generating units that began commercial operation prior to October 1, 202~~7~~.

Case by Case version:

Individual wind turbine towers for which the Generator Owner first contractually committed to purchase prior to (the effective date of EOP-012-3) that have structural limitations established by Original Equipment Manufacturers (OEMs) based on a minimum temperature that is higher than the Extreme Cold Weather Temperature calculated per Requirement R1.

Debate about dates for the known constraint....Charles Y. and David K. and Thor A.
Should there be two different dates?

Brad P. topic on Attachment 1 point #4. Yesterday's draft:

engineering analysis and supported with justification.

4. A determination, through an analysis, that the freeze protection measure has been shown to be ineffective or that there is no record that such a measure has been effectively utilized on generating unit(s) of comparable types in regions that experience similar winter climate conditions. A determination, through an analysis, that the freeze protection measure would not be effective for the generating unit. Such a determination may be supported, for example, by experience with the freeze protection measure on generating unit(s) of comparable types in regions that experience similar winter climate conditions.

Brad proposal as of this morning:

Attachment 1, Case-by-case item 4.

A determination, through an analysis, that the freeze protection measure would not be effective for the generating unit. Such a determination may be supported, for example, by fleet or industry operating experience (or lack thereof) with the freeze protection measure on generating unit(s) of comparable types in regions that experience similar winter climate conditions. []

would = is not expected to be

David L. asks what does “throughout industry” mean? That was removed. Jonathan D. says what about industry saying something would work...and it is found to not work that well. David K. says that you would have to create the evidence to prove your case. Lauren has an issue with “or lack thereof” phrase...but says that it is in the case-by-case section of Attachment 1 then it’s okay.
Team vote approves this change to #4.

Thor says in the chat: NERC has a Lessons Learned that recommends a gas turbine owner should open the door on the side of the air inlet to allow a unit to generate when the air inlet is clogging with ice. They do recommend that you put up a screen of some sort to keep large debris out, but that is stated as more optional.

Next Brad P. topic – known constraint regarding solar panels:

Other suggested changes from comments received on second ballot:

1. Modify the “known Constraint” dealing with frozen precip on solar panels as follows:

Implementation of technologies for the purpose of mitigating the effects of accumulated frozen precipitation on solar panels.

I believe this better matches up with the phraseology and structure of some of the other items on the list

Vince S. says he can see both sides of this argument. Will solar not look for possible future solutions to precipitation on the panels? Pamela and Jill share some thoughts on solar facilities who deal with frozen precipitation on the panels. David K. is concerned it will limit new technology implementation but Brad says it will happen organically – the industry would drive this. Team debated should we just leave this bullet item alone and not redline it? Alison mentions that EEI brought up this topic as well so it needs some edit. Suggestion is to take bullet 2 type language to modify bullet 4. Team decides to leave bullet 2 as is but Lauren says this needs to be addressed from a grammar solution before it goes to the NERC Board on 1/10. Jill suggests the constraint could be limited to just applying heat to solar panels. Pamela suggests “practical might need replacement as it could be subjective”

Afternoon Session:

Curtis suggestion on bullet 4:

- Application of freeze protection measures to meet the requirements of this Standard that require:
 - a. Replacing existing wind turbine blades with new blades solely for the purpose of adding de-icing or ice-minimizing capabilities;
 - b. Removal of accumulated frozen precipitation on solar panels; or-
 - c. Applying heat upstream of inlet air filters to prevent the buildup of frozen precipitation on combustion turbine inlet air filters.

Eric J. suggests adding the qualifier “Application of freeze protection measures to meet the requirements of this Standard that require:” clause for all known constraints...would this work?

Team decided on this redline:

The following are circumstances which, if present and confirmed as valid by the CEA, will constitute Generator Cold Weather Constraints:

- Individual wind turbine towers manufactured prior to October 1, 2027 that have structural limitations established by Original Equipment Manufacturers (OEMs) based on a minimum temperature that is higher than the Extreme Cold Weather Temperature calculated per Requirement R1 for generating units that began commercial operation prior to October 1, 2027.
- ~~Implementation of heat tracing or other de-icing technologies for wind turbine blades, that, through analysis, have been shown to not be effective or not made available by the OEM for generating units of a comparable types in regions that experience similar winter climate conditions.~~ Application of freeze protection measures to meet the requirements of this Standard that require:
 - ~~a.~~ Replacing existing wind turbine blades with new blades solely for the purpose of adding de-icing or ice-minimizing capabilities;
 - ~~a.b.~~ Removal of accumulated frozen precipitation on solar panels;
 - ~~c.~~ Applying heat upstream of inlet air filters to prevent the buildup of frozen precipitation on combustion turbine inlet air filters; or-
 - ~~b.d.~~ Implementation of heat tracing or other de-icing technologies for wind turbine blades, that, through analysis, have been shown to not be effective or not made available by the OEM for generating units of a comparable types in regions that experience similar winter climate conditions.

Brad point on Requirement R9: suggestion from ISO/RTO Council:

2. Edit Requirement R9 to clarify expectations for the GO once a previously approved constraint is determined to no longer be valid.

A portion of the comment received from ISO/RTO Council SRC: As Requirement R9 is currently drafted, it is not clear to the SRC how long a Generator Owner would have to implement new freeze protection measures, develop and implement a Corrective Action Plan under Requirement R7, or take any other actions that may be needed as a result of a constraint no longer being valid.

A suggestion might be to add language to R9 along these lines (although it certainly needs work):

Within 90 calendar days of determining a Constraint to be invalid, the GO shall review the Corrective Action Plan originally associated with this Generator Cold Weather Constraint, make revisions as applicable, and execute the Corrective Action Plan according to the timelines established in R7.

Becky Davis suggested this edit: The Generator Owner shall review each Generator Cold Weather Constraint declaration validated by the CEA at least once every 36 calendar months to determine if it remains valid in accordance with Attachment 1. The Generator Owner shall also review each Generator Cold Weather Constraint declaration validated by the CEA upon gaining actual or constructive knowledge of a material change in the circumstances that formed the basis for the Generator Cold Weather Constraint. David K. says this phrase is not needed even if NERC comes out with some guidance.

David L. asks...can't we have NERC just state when constraints are no longer valid. Also says we don't have to 'review original CAP' just have to create a CAP. Also thinks 90 days is too short a timeframe. Brad says a longer timeframe is fine. David L. also suggests this edit: "the GO shall develop a CAP pursuant to R7". Jill L. suggests the addition to R9 needs to be a sub requirement – R9.1. Team decided on this after a vote:

- R9.** The Generator Owner shall review each Generator Cold Weather Constraint declaration validated by the CEA at least once every 36 calendar months to determine if it remains valid in accordance with Attachment 1. *[Violation Risk Factor: Lower]*
[Time Horizon: Long-term Planning]
9.1 If a Generator Cold Weather Constraint is determined to be no longer valid, then within six (6) calendar months of such determination, the GO shall develop a Corrective Action Plan pursuant to Requirement R7.

EEI points in the comment form:

Decided previously to not add "viable" to freeze protection measure phrase

Addressed the frozen precipitation on solar panels in Attachment 1 edits

"becoming aware" phrase per the FERC Order #68...team did not add this concept based on discussion yesterday and looking at #67 and #68. Amir references FERC Order #68...regarding timeframe for developing a CAP...these were just suggestions for

timeframe. So 12 months plus 24 months is too much time...Team agreed to not do this. Lauren asks the team if we should consider staggered implementation for large fleets? Team vote agrees to not make any changes

Requirement R2 to the June 29, 2023 date...should be 2024 instead. The 2023 date is the date of the FERC Order....so not the 2024 enforcement date. Lauren said it should be the June 29, 2023 Order date that makes sense...this is when GOs should have been aware of what is expected regarding ECWT....they are on reasonable notice. Team vote is to leave the timing in R2 as it stands.

3 calendar years instead of 36 calendar months for the constraint declaration review...to add more flexibility. Team agreed this potentially adds 364 extra days so team voted to not make this change.

Review of FERC Orders in the SAR vs. the redlines made the last two days:

Summarizing the June 2024 FERC Order, the drafting team's scope is:

- To address concerns related to the ambiguity of the Generator Cold Weather Constraint term

and criteria (P 47);

Jill L. stated this was addressed by: "Addition of Attachment 1 w/ known and case-by-case constraints. And remove the ambiguous terms – cost, reasonable cost, and good business practices." Charles Y. asks did team consider the "pre-approval process"? David K. says the team did discuss and debated this as an option...and decided all constraints needed to be approved/validated by CEA even if they are in the known constraint category. The NERC CAP Extension and Constraint process document speaks to how this will work.

- To address concerns regarding the need for a timely review and evaluation of declared

Generator Cold Weather Constraints by NERC (P 54);

Curtis states "this was address by the NERC CAP Extension and Constraint process document and Requirement R8 and to some extent the modifications to R9". Curtis also mentions a NERC 1600 data request that will be issued in 2025 that will ask some questions about GOs current constraint declarations. David K. asks did we address the directive – if you know your constraint has changed, you need to notify NERC within 45 days. Jill L. says that maybe we do need a R9.2 about providing the constraint is no longer valid info to NERC (as David K. suggests), but rescinded this suggestion after Curtis' IP explanation (see below). Amir refers the transition from EOP-012 version 2 to version 3...constraints may no longer be valid. And also the scenario when new technology is developed in the future and a constraint is no longer valid. Curtis clarified

that the EOP-012-3 IP speaks to the transition from version 2 to 3 and notifying NERC w/ 45 days of a constraint per Attachment 1. David K. suggested some R9.2 language. Team voted but no clear consensus. Amir was asked to weigh-in on this 45 day phrase...says it is a valid point and suggests this language should be in R8...notify the CEA of a material change to the constraint declaration. David L. argues this is too administrative and suggests if NERC wants this information it could be a quarterly Periodic Data Submittal. Vote again...split Yes/No....but the No vote carried....so no additional modifications to the Standard were made.

- To address concerns that existing EOP-012-2 Requirement R7 allows too long for entities to

implement corrective actions for existing or new equipment or freeze protection measures for

those generating units that experience a Generator Cold Weather Reliability Event (P 68);

Jill L. suggests this was addressed by adding the 24 month clause. Decided to not adopt the staggered implementation plan approach due to the complexity of tracking the completion dates. Additionally, GOs can still ask for a CAP extension request if they can't meet the timelines for a large fleet of generation.

- To address the finding that any extensions of a Corrective Action Plan implementation deadline

beyond the maximum implementation timeframe provided by the standard be pre-approved by

NERC (P 70);

Curtis states "this was addressed by the NERC Cap Extension Process".

STOPPED HERE AT 4:59 PM

- To address the finding that generators that are first commercially operational on or after

October 1, 2027, should have freeze protection measures either designed into their generating

systems, or, if a corrective action plan is needed, then it should be completed by the time that

such generating units go into commercial operation (P 72);

This was addressed by:

- To address concerns that EOP-012-2 Requirement R7 has ambiguities in the implementation

plan timelines that apply to certain generator owners (P 76); and,

This was addressed by:

To address the concern that Generator Cold Weather Constraint declarations should be reviewed more

frequently than once every five years to ensure the constraint remains valid (P 94).

This was addressed by:

3. Adjournment

Chair adjourned the meeting at 4:59 p.m., Central, by consent.

Day Three

Introduction and Chair's Remarks

The meeting started at 8:30 a.m., Central.

NERC Antitrust Compliance Guidelines and Public Announcement

The NERC Antitrust Compliance Guidelines, NERC Participant Conduct Policy, and the Public Announcement were presented and reviewed by the secretary.

Agenda Items

1. Introduction

- a. The Chair welcomed the Drafting Team (DT) members and the participants from the industry. See **Attachment 3** for those in attendance.
- b. Attendance was taken and the quorum was met.

2. Develop Draft of Standard, Implementation Plan, VRFs and VSLs

- a. The DT continued with FERC Directives.
- b. Four votes were taken during the meeting on the first day:
 1. Vote on making changes on R9 or R8 to cover P.54 (necessary or not necessary) (5 voted yes, 6 voted no, 2 absent);
 2. DT voted on changing the manufactured date from October 1, 2027 to October 1, 2029 (8 voted yes, 1 voted no, 4 absent);
 3. DT voted on changing the commercial operation date from October 1, 2027 to October 1, 2031 and leave bullet (10 voted yes, 3 absent);
 4. DT voted to accept the Standard as final (12 voted yes, 1 absent).
- c. Meeting notes:

P.72 Brad Pabian pointed out that Requirement R2 satisfies this Directive. Amir (FERC) pointed out that justification should be included as part of the petition when filed.

David Lemmons:

https://www.nerc.com/pa/stand/project%20200812%20coordinate%20interchange%20standards%20dl/paragraph_81_criteria.pdf

This document is the basis for my position on yesterday's proposed changes related to requiring a filing to the CEA.

Or I should say that this document is a small part of a large effort in 2013-02 to remove from the NERC standards requirements that were administrative in nature and did not provide meaningful reliability benefits.

P.76 Requirement R6 in addition to Requirement R7 would satisfy this Directive. To address this directive, the DT has included CAP timelines in Requirement R6 Part 6.3.5 for CAPs generated due to experiencing a Generator Cold Weather Reliability Event which include no later than the first day of the first December following the event. For events occurring early in the season (i.e. prior to December 1), corrective actions shall be implemented prior to December 1 of the next calendar year following the event.

P.94 To address this directive, the DT drafted Requirement R9 to require review of all validated Generator Cold Weather Constraints at least once every 36 calendar months to ensure the constraint remains valid. Language regarding reviews “as needed when a change of status” occurs was removed due to the more frequent periodicity. This timeline was based on consideration of stakeholder comments regarding the optimal timeframe for such reviews, considering the pace that new technologies are brought to market. By shortening from five calendar years, the 36 calendar month timeline provides a reasonable approach to meeting the Commission’s directives without creating undue administrative burden to periodically monitor if Generator Cold Weather Constraints remain valid or if new technologies have become available that effectively obviate the originally validated constraint.

Attachment 1: DT was debating whether or not changing the manufactured date (October 1, 2027) and/or commercial operation date (October 1, 2027) in bullet 1 of Known GCWCs. The industry expressed that October 1, 2027 is too soon based on OEM’s feedback. Some of the drafting team members do not see this as an issue or concern from their own company perspective.

David Kezell: Known Constraint: Individual wind turbine towers installed prior to October 1, 2027 that have structural limitations established by Original Equipment Manufacturers (OEMs) based on a minimum temperature that is higher than the Extreme Cold Weather Temperature where installed.

David Lemmons: I thought the SDT had voted to make that date 2029.

David Kezell: Case by Case Constraint: Individual wind turbine towers that are part of projects contractually committed to prior to October 1, 2027 that have structural limitations established by Original Equipment Manufacturers (OEMs) based on a minimum temperature that is higher than the Extreme Cold Weather Temperature.

David Lemmons: I am unaware of any entity that has asked for permanent constraint.

Other outstanding items related to Technical Rationale document:

Attachment 1 ...

Single constraint or single CAP satisfy ...

Requirement 2 justification ...

The DT went through the Standard redline to check if anything needs to be modified or explained in the Technical Rationale document after the DT voted to make the Standard as final.

The DT went through the Implementation Plan and decided that nothing needs to be modified based on the newly modified Standard.

Curtis Crews: IG cannot change a Standard nor a definition

MRO NSRF/NAGF is injecting more ambiguity in what an entity is to consider through the suggested edits as it does not define several aspects of the provided language. FERC required language to be auditable for various other aspects of the Standard as shown in the FERC Order that this DT was obligated to facilitate. The language provided does not address private sources, what “necessary” means, where 90 percent was derived, and what “addressed” is intended to incorporate. In short, no technical reason for considering a change in the ECWT definition was provided. Implementation Guidance has been drafted by the DT to address some of the concerns noted during discussions.

necessary is used by MRO NSRF in their comment... by William Crews 12:00 PM

David Lemmons: Thanks. I had not looked at their comment closely, just NAGF.

“Using publicly available data sources (such as NOAA or ASOS), the ECWT calculation is complete if the data source has greater than 90 percent of the expected data points and any gap greater than 168 hours is addressed.”

Curtis Crews: what is expected?

Last read Yes for me. by Scott Reinhold (Unverified)12:10 PM Yes for me. Link Calendar by Lauren Perotti 12:36 PM

Lauren Perotti shared:

Calendar

Title Regulatory Oversight Committee Meet... 12:36 PM

Title Regulatory Oversight Committee Meeting - January 10, 2025

Location Virtual via WebEx

Start Time 1/10/2025 11:00 AM

End Time 1/10/2025 12:00 PM

Webinar

Event Link: <https://nerc.webex.com/nerc/j.php?MTID=maef78133128abb6bc7e70bf583e4feb8>

Details Attendee Password: ROCBoardJan25ATT (76226274 from phones)

Audio Only: +1-415-655-0002 US | +1-416-915-8942 Canada | Access code: 2305 638 9089

Title Board of Trustees Open Meeting ... by Lauren Perotti 12:36 PM

Title Board of Trustees Open Meeting - January 10, 2025

Location Virtual via WebEx

Start Time 1/10/2025 12:00 PM

End Time 1/10/2025 12:30 PM

Webinar

Event
Details

Link: <https://nerc.webex.com/nerc/j.php?MTID=maef78133128abb6bc7e70bf583e4feb8>

Attendee Password: ROCBoardJan25ATT (76226274 from phones)

Audio Only: +1-415-655-0002 US | +1-416-915-8942 Canada | Access code: 2305 638 9089

d. Future meetings: None.

3. Adjournment

Chair adjourned the meeting at 11:36 a.m., Central, by consent.

Attachment 1

Name	Company	Member/Observer	Date
Ben Wu	NERC	Secretary	1/7/2025
Lauren Perotti	NERC	NERC Staff	1/7/2025
Dominique Love	NERC	NERC Staff	1/7/2025
Derek Kassimer	NERC	NERC Staff	1/7/2025
Catherine Ethier	OEB	Observer	1/7/2025
Eric Jebesen	Constellation	Observer	1/7/2025
Syed Ahmad	FERC	Observer	1/7/2025
Jason Chandler	ConEd	Observer	1/7/2025
Pamela Frazier	Southern Company	Member	1/7/2025
Dane Rogers	OGE	Observer	1/7/2025
Michael Dwayne Jenkins	Duke Energy	Observer	1/7/2025
Eric Oben	FERC	Observer	1/7/2025
Mike Herman	GREnergy	Member	1/7/2025
David Lemmons	Greybeardcs	Observer	1/7/2025
Sharon Mayers	Amppartners	Observer	1/7/2025
Sing Tay	AES	Observer	1/7/2025
Colby Bellville		Observer	1/7/2025
Elizabeth Davis	PJM	Observer	1/7/2025
Robert Henderson	Invenergy	Observer	1/7/2025
Brad Pabian	LGE-KU	Vice Chair	1/7/2025
Vincent Stefanowicz	PJM	Member	1/7/2025
Curtis Crews	WECC	Member	1/7/2025
Jill Loewer	Utility Services	Member	1/7/2025
Kevin Shoemake	Cooperative Energy	Observer	1/7/2025
David Kezell	ERCOT	Chair	1/7/2025
Charles Yeung	SPP	Observer	1/7/2025
Michael Gabor	NERC	NERC Staff	1/7/2025
Kevin Cline	City Utilities	Observer	1/7/2025
Jonathan Davidson	City Utilities	Member	1/7/2025
Rebecca Zahler	Chelanpud	Observer	1/7/2025
Scott Reinhold	MISO Energy	Member	1/7/2025
Mike Johnson	PGE	Observer	1/7/2025
Mat Bunch	Enel Green Power	Observer	1/7/2025
Thor Angle	PSE	Member	1/7/2025
16106353009	PJM	Observer	1/7/2025
Thomas James Vandervort	TVA	Observer	1/7/2025

Venona Greaff	OXY	Member	1/7/2025
Robert Hirschak	Cleco	Observer	1/7/2025
Mat Bunch	Enel Green Power	Observer	1/7/2025
Constantin Chitescu	OPG	Observer	1/7/2025
Amir T. Najafzadeh	FERC	Observer	1/7/2025
Donald Hargrove	OGE	Observer	1/7/2025
Russell Ferrell	Vistra Corp	Observer	1/7/2025
Kennedy Meier	ERCOT	Observer	1/7/2025
Ruida Shu	NPCC	Observer	1/7/2025
Peg Abbadini		Observer	1/7/2025
Joshua Phillips	SPP	Observer	1/7/2025
Alison Oswald	NERC	NERC Staff	1/7/2025
Melissa Wehde	Mid-American	Observer	1/7/2025
Mike Bowman	City Utilities	Observer	1/7/2025
Brett Koelsch	Duke Energy	Observer	1/7/2025
Barbara J Marion	Donminion Energy	Observer	1/7/2025
Charlie Cook	Duke Energy	Observer	1/7/2025
Kim Thomas	Duke Energy	Observer	1/7/2025
Jamie Calderon	NERC	NERC Staff	1/7/2025

Attachment 2

Name	Company	Member/Observer	Date
Ben Wu	NERC	Secretary	1/8/2025
Mike Herman	GREnergy	Observer	1/8/2025
Russell Ferrell	Vistracorp	Observer	1/8/2025
Kevin Shoemake	Cooperative Energy	Observer	1/8/2025
Pamela Frazier	Southern Company	Member	1/8/2025
Jill Loewer	Utility Services	Member	1/8/2025
David Kezell	ERCOT	Chair	1/8/2025
Derek Kassimer	NERC	NERC Staff	1/8/2025
Scott Reinhold	MISO Energy	Member	1/8/2025
Eric Oben	FERC	Observer	1/8/2025
Charles Yeung	SPP	Observer	1/8/2025
Sharon Mayers	Amppartners	Observer	1/8/2025
David Lemmons	Greybeardcs	Observer	1/8/2025
Mark Garza	First Energy Corp.	Observer	1/8/2025
Jonathan Davidson	City Utility	Member	1/8/2025
Michael Dwayne Jenkins	Duke Energy	Observer	1/8/2025
Jason Chandler	ConEd	Observer	1/8/2025
David Mc Ree	Duke Energy	Member	1/8/2025
Barbara J Marion	Dominion Energy	Observer	1/8/2025
Vincent Stefanowicz	PJM	Member	1/8/2025
Elizabeth Davis	PJM	Observer	1/8/2025
16106353009 (Unverified)	PJM	Observer	1/8/2025
Brett Koelsch	Duke Energy	Observer	1/8/2025
Lauren Perotti	NERC	NERC Staff	1/8/2025
Kevin Cline	City Utility	Observer	1/8/2025
Michael Gabor	NERC	Observer	1/8/2025
Thor Angle	PSE	Member	1/8/2025

Constantin Chitescu	OPG	Observer	1/8/2025
Mike Johnson	PGE	Observer	1/8/2025
Eric Jebson	Constellation	Observer	1/8/2025
Dominique Love	NERC	NERC Staff	1/8/2025
Robert Henderson	Inv Energy	Observer	1/8/2025
Rebecca Zahler	Chelan PUD	Observer	1/8/2025
Alison Oswald	NERC	NERC Staff	1/8/2025
Charlie Cook	Duke Energy	Observer	1/8/2025
Robert Hirschak	Cleco	Observer	1/8/2025
Ruida Shu	NPCC	Observer	1/8/2025
Thomas Vandervort	TVA	Observer	1/8/2025
Todd Bennett	AECI	Observer	1/8/2025
Colby Bellville		Observer	1/8/2025
Brad Pabian	LGE-KU	Vice Chair	1/8/2025
Sing Tay	AES	Observer	1/8/2025
Melissa Wehde	Mid-American	Observer	1/8/2025
Venona Greaff	OXY	Member	1/8/2025
Joshua Phillips	SPP	Observer	1/8/2025

Attachment 3

Name	Company	Member/ObsERVER	Date
Ben Wu	NERC	Secretary	1/9/2025
Venona Greaff	OXY	Member	1/9/2025
Mike Herman	GREnergy	Member	1/9/2025
Constantin Chitescu	OPG	Observer	1/9/2025
Russell Ferrell	Vistracorp	Observer	1/9/2025
Thor Angle	PSE	Member	1/9/2025
Jonathan Davidson	City Utility	Member	1/9/2025
Kevin Shoemake	Cooperative Energy	Observer	1/9/2025
Eric Oben	FERC	Observer	1/9/2025
Derek Kassimer	NERC	NERC Staff	1/9/2025
Barbara J Marion	Dominion Energy	Observer	1/9/2025
David Kezell	ERCOT	Chair	1/9/2025
Brad Pabian	LGE-KU	Vice Chair	1/9/2025
Kevin Cline	City Utility	Observer	1/9/2025
Scott Reinhold	MISO Energy	Member	1/9/2025
Mark Garza	First Energy Corp	Observer	1/9/2025
David Lemmons	Greybeardcs	Observer	1/9/2025
Vincent Stefanowicz	PJM	Member	1/9/2025
Pamela Diane Frazier	Southern Company	Member	1/9/2025
Dane Rogers	OGE	Observer	1/9/2025
Mike Johnson	PGE	Observer	1/9/2025
Brett Koelsch	Duke Energy	Observer	1/9/2025
Jason Chandler	ConEd	Observer	1/9/2025
Eric Jebesen	Constellation	Observer	1/9/2025
Michael Gabor	NERC	NERC Staff	1/9/2025
Sharon Mayers	Amppartners	Observer	1/9/2025
Amir Najafzadeh	FERC	Observer	1/9/2025
Dominique Love	NERC	NERC Staff	1/9/2025

Alison Oswald	NERC	NERC Staff	1/9/2025
Lauren Perotti	NERC	NERC Staff	1/9/2025
Robert Henderson	INV Energy	Observer	1/9/2025
Rebecca Zahler	Chelan PUD	Observer	1/9/2025
Robert Hirschak	Cleco	Observer	1/9/2025
Thomas Vandervort	TVA	Observer	1/9/2025
Colby Bellville		Observer	1/9/2025
Joshua Phillips	SPP	Observer	1/9/2025
David Mc Ree	Duke Energy	Member	1/9/2025
Charlie Cook	Duke Energy	Observer	1/9/2025
Jill Loewer	Utility Services	Member	1/9/2025
Ruida Shu	NPCC	Observer	1/9/2025
Jordan Mallory	NERC	NERC Staff	1/9/2025
Curtis Crews	WECC	Member	1/9/2025
Sing Tay	AES	Observer	1/9/2025
Kim Thomas	Duke Energy	Observer	1/9/2025