NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Project Name:	2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination - Phase 2 | Draft 2 EOP-012-2
Comment Period Start Date:	10/27/2023
Comment Period End Date:	11/30/2023
Associated Ballot(s):	2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination | Phase 2 EOP-012-2 | Non-Binding Poll AB 2 NB 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination | Phase 2 EOP-012-2 AB 2 ST 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination | Phase 2 Implementation Plan | EOP-012-2 AB 2 OT

There were 71 sets of responses, including comments from approximately 167 different people from approximately 113 companies representing 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the project page.

If you feel that your comment has been overlooked, let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, contact Vice President of Engineering and Standards, Soo Jin Kim (via email) or at (404) 446-9742.

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Questions

See the unofficial comment form for additional information: https://www.nerc.com/pa/Stand/Project202107ExtremeColdWeatherDL/2021-07_Unofficial_Comment_Form_AB%20EOP-012-2_102723.docx

1. To address the P66 directive, the SDT removed the three examples contained in the proposed definition of Generator Cold Weather Constraint and revised the definition to utilize "good utility practice" which has a common understanding as used in the pro forma OATT as approved by FERC. Good utility practice encompasses the three examples previously proposed and additional context is provided in the Technical Rationale. Do you agree that the revised definition of Generator Cold Weather Constraint provides sufficient clarity to the requirements in EOP-012-2, and is auditable? If you do not agree, please provide your recommended language.

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2. Based upon industry comments received, the SDT has re-structured R2 to require generating units to either implement appropriate freeze protection measures or develop a CAP. Do you agree that the revised language provides sufficient clarity? If not, please provide suggested clarifying language.

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3. In order to meet the FERC directive and reduce reliability risks more quickly, the SDT added new Requirement R7 Part 7.1.3 *"For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units."* Do you agree with this proposed language? If you do not agree, please provide your recommended language.

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4. Do you agree that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority thereby providing the potential impacts a constraint declaration may have on the generating unit's performance to its Extreme Cold Weather Temperature? If you do not agree, or if you do agree but have an alternative approach that will more effectively address the concern, please provide your recommendation and, if appropriate, technical, or procedural justification.

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5. Per the FERC directive to shorten the timeframe to implement freeze protection measures on existing units, the SDT proposes an implementation plan where all requirements of EOP-012-2 go into effect on the effective date of the standard except Requirement R3 which has a 12-month implementation time frame. The chart below is included to compare the EOP-012-1 and EOP-012-2 IPs for this requirement which requires GOs to have the capability to operate at the ECWT or a CAP written by the effective date of the requirement. Do you agree with this proposed timeframe? If you think an alternate timeframe is needed, please propose an alternate implementation plan and time period, and provide a detailed explanation of actions planned to meet the implementation deadline.

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6. The SDT proposes that the modifications in EOP-012-2 meet the key recommendations in The Report as well as the directives in the FERC order in a cost-effective manner. Do you agree? If you do not agree, or if you agree but have suggestions for improvement to enable more cost-effective approaches, please provide your recommendation and, if appropriate, technical, or procedural justification.

7. Provide any additional comments for the standard drafting team to consider, including the provided technical rationale document, if desired.

The Industry Segments are:

1 — Transmission Owners
2 — RTOs, ISOs
3 — Load-serving Entities
4 — Transmission-dependent Utilities
5 — Electric Generators
6 — Electricity Brokers, Aggregators, and Marketers
7 — Large Electricity End Users
8 — Small Electricity End Users
9 — Federal, State, Provincial Regulatory or other Government Entities
10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
MRO	Anna Martinson	1,2,3,4,5,6	MRO	MRO Group	Shonda McCain	Omaha Public Power District (OPPD)	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jamison Cawley	Nebraska Public Power District	1,3,5	MRO
					Jay Sethi	Manitoba Hydro (MH)	1,3,5,6	MRO
					Jaimin Patal	Saskatchewan Power Corporation (SPC)	1	MRO
					Kimberly Bentley	Western Area Power Adminstration	1,6	MRO

					Marc Gomez	Southwestern Power Administration (SWPA)	1	MRO
					Fred Meyer	Algonquin Power Co.	3	MRO
					George Brown	Pattern Operators LP	5	MRO
					Larry Heckert	Alliant Energy (ALTE)	4	MRO
					Terry Harbour	MidAmerican Energy Company (MEC)	1,3	MRO
					Bryan Sherrow	Board Of Public Utilities (BPU)	1	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Michael Ayotte	ITC Holdings	1	MRO
WEC Energy Group, Inc.	Christine Kane	3		WEC Energy Group	Christine Kane	WEC Energy Group	3	RF
					Matthew Beilfuss	WEC Energy Group, Inc.	4	RF
					Clarice Zellmer	WEC Energy Group, Inc.	5	RF

					David Boeshaar	WEC Energy Group, Inc.	6	RF
Dane Rogers	Dane Rogers			OG&E	Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO
					Ashley F Stringer	OGE Energy - Oklahoma Gas and Electric Co.	6	MRO
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,RF,SERC,Texas RE,WECC	ACES Collaborators	Bob Soloman	Hoosier Energy Electric Cooperative	1	RF
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Kris Carper	Arizona Electric Power Cooperative, Inc.	1	WECC
					Scott Berry	Wabash Valley Power Association	3,4	RF

					Nikki Carson-Marquis	Minnkota Power Cooperative, Inc.	1	MRO
					Scott Berry	Wabash Valley Power Association	3,4	RF
					Bill Pezalla	Old Dominion Electric Cooperative	3,4	SERC
					Scott Brame	North Carolina Electric Membership Corporation	3,4,5	SERC
					Teresa Czyz	Oglethorpe Power Corporation	5,6	SERC
					Kylee Kropp	Sunflower Electric Power Corporation	1	MRO
					Jordan Mcclellan	Southern Illinois Power Cooperative	1	SERC
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC

Electric Reliability Council of Texas, Inc.	Kennedy Meier	2		ISO/RTO Council Standards Review Committee (SRC)	Bobbi Welch	Midcontinent ISO, Inc.	2	NA - Not Applicable
					Darcy O'Connell	California ISO	2	WECC
					Gregory Campoli	New York Independent System Operator	2	NPCC
					Kennedy Meier	Electric Reliability Council of Texas, Inc.	2	Texas RE
					Matthew Harward	Southwest Power Pool, Inc. (RTO)	2	NA - Not Applicable
					Thomas Foster	PJM Interconnection, L.L.C.	2	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF

					Mark Garza	FirstEnergy- FirstEnergy	1,3,4,5,6	RF
					Stacey Sheehan	FirstEnergy - FirstEnergy Corporation	6	RF
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
					Leslie Burke	Southern Company - Southern Company Generation	5	SERC
Public Utility District No. 1	Rebecca Zahler	5		CHPD Voters	Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC

of Chelan County					Anne Kronshage	Public Utility District No. 1 of Chelan County	6	WECC
					Diane E Landry	Public Utility District No. 1 of Chelan County	1	WECC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC RSC	Gerry Dunbar	Northeast Power Coordinating Council	10	NPCC
					Alain Mukama	Hydro One Networks, Inc.	1	NPCC
					Deidre Altobell	Con Edison	1	NPCC
					Jeffrey Streifling	NB Power Corporation	1	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
					Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
					Randy Buswell	Vermont Electric Power Company	1	NPCC

James Grant	NYISO	2	NPCC
John Pearson	ISO New England, Inc.	2	NPCC
Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	NPCC
Randy MacDonald	New Brunswick Power Corporation	2	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
David Burke	Orange and Rockland	3	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
David Kwan	Ontario Power Generation	4	NPCC

					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	1	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Sean Cavote	PSEG	4	NPCC
					Jason Chandler	Con Edison	5	NPCC
					Tracy MacNicoll	Utility Services	5	NPCC
					Shivaz Chopra	New York Power Authority	6	NPCC
					Vijay Puran	New York State Department of Public Service	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					David Kiguel	Independent	7	NPCC
					Joel Charlebois	AESI	7	NPCC
					Joshua London	Eversource Energy	1	NPCC
Dominion - Dominion	Sean Bodkin	6		Dominion	Connie Lowe	Dominion - Dominion Resources, Inc.	3	NA - Not Applicable

Resources, Inc.					Lou Oberski	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
					Larry Nash	Dominion - Dominion Virginia Power	1	NA - Not Applicable
					Rachel Snead	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
Stephen Whaite	Stephen Whaite		RF	ReliabilityFirst Ballot Body Member and Proxies	Lindsey Mannion	ReliabilityFirst	10	RF
					Stephen Whaite	ReliabilityFirst	10	RF
Western Electricity Coordinating Council	Steven Rueckert	10		WECC Entity Monitoring	Steve Rueckert	WECC	10	WECC
					Phil O'Donnell	WECC	10	WECC
Tim Kelley	Tim Kelley		WECC	SMUD and BANC	Nicole Looney	Sacramento Municipal Utility District	3	WECC
					Charles Norton	Sacramento Municipal Utility District	6	WECC
					Wei Shao	Sacramento Municipal Utility District	1	WECC

					Foung Mua	Sacramento Municipal Utility District	4	WECC
					Nicole Goi	Sacramento Municipal Utility District	5	WECC
					Kevin Smith	Balancing Authority of Northern California	1	WECC

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1. To address the P66 directive, the SDT removed the three examples contained in the proposed definition of Generator Cold Weather Constraint and revised the definition to utilize "good utility practice" which has a common understanding as used in the pro forma OATT as approved by FERC. Good utility practice encompasses the three examples previously proposed and additional context is provided in the Technical Rationale. Do you agree that the revised definition of Generator Cold Weather Constraint provides sufficient clarity to the requirements in EOP-012-2, and is auditable? If you do not agree, please provide your recommended language.

Robert Follini - Avista - Avista Corporation - 3	
Answer	No
Document Name	
Comment	

Avista does not support the use of the phrase "good utility practice" because it is not clear or auditable. Avista further notes that the phrase "good utility practice" is not based on common understanding or general industry use, it is an explicitly defined phrase within the pro forma Open Access Transmission Tariff (I.1.15). As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process or consideration on the impact to any NERC Reliability Standard. Additionally, the inclusion of this term runs contrary to the NERC Rules of Procedure Section 300.6 which states "Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance."

Regarding auditability, the vagueness of terms included in the definition of "good utility practice" such as "significant portion" and "reasonable cost" allow for a broad range of interpretations regarding what may or may not constitute "good utility practice".

We recommend that the Standard Drafting Team identify some other method of complying with the Commission directive surrounding Generator Cold Weather Constraints, which aligns with NERC Rules of Procedure and does not use a term that could change overtime by an entity outside of the control of the NERC standards making process.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	

The Good Utility Practice (GUP) criterion of EOP-012-2 may at times be non-auditable because the, “methods and acts engaged in or approved by a significant portion,” of GO/GOPs in deregulated areas often derive from market forces and can therefore differ from the approach appropriate for achieving NERC’s BES reliability goals.

It has been reported for example that many wind farm owners in warm parts of the country declined OEMs’ standard winterization options because doing so achieved their “desired result” (profit maximization) in a fashion consistent with their concept of reliability (achieving just a few extra hours of operation wasn’t worth the cost). This meets the GUP definition, forcing NERC to apply an ex post facto “Bad GUP” classification.

The same negative outlook ought to apply for the widespread under-designing of heat tracing and insulation systems in the deregulation era; but, as discussed later in these comments, NERC has chosen to enshrine this as “Good GUP.”

Unpredictable Good GUP vs Bad GUP divergences are therefore already occurring, and more of the same can be expected. Can an emerging winter reliability technology that gains substantial acceptance overseas be deemed Not-GUP for North America simply because prospective

users here refuse to adopt it? Any public policy goals wanted by NERC need to be spelled-out, rather than assuming that they will automatically coincide with the path taken by an industry under the lash of economic competition.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	No
Document Name	
Comment	
See comments submitted by the Edison Electric Institute for Duke Energy's official response.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group	
Answer	No
Document Name	
Comment	

MRO NSRF does not agree that the use of "good utility practice" provides sufficient clarity or is auditable and contends that the phrase is unsuitable for use in a reliability standard as currently proposed. The phrase "good utility practice" is not based on common understanding or general industry use, it is an explicitly defined phrase within the pro forma Open Access Transmission Tariff (I.1.15). As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process or consideration on impact to this reliability standard. Additionally, inclusion of this term runs contrary to NERC Rules of Procedure Section 302.6 which states *"Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance."* This is also an important consideration for Canadian entities that fall outside of FERC jurisdiction. These entities would need to create their own definition of the term and this could create confusion for auditors with different meanings in different jurisdictions.

Regarding auditability, the vagueness of terms included in the definition of "good utility practice" such as "significant portion" and "reasonable cost" allow for a broad range of interpretations of what may or may not constitute "good utility practice". MRO NSRF appreciates the Standard Drafting Team's efforts on this subject; however, MRO NSRF recommends that the Standard Drafting Team either revert to the language in EOP-012-1 which was in line with NERC rules of procedure and approved by the Registered Ballot Body and NERC Board of Trustees or revert to the proposed definition for Generator Cold Weather Constraint as defined in Phase 2, Draft 1 of EOP-012-2 with the updated language as proposed below and incorporate the currently proposed reference to "good utility practice" in the technical rationale.

Generator Cold Weather Constraint(s) – A limitation**, as determined by the applicable entity,** that would prohibit a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Components. A constraint must fall under one of the following areas:

Technical Constraint – A technical constraint exists when there is no known **proven** technical solution for addressing the issue or implementation of selected freeze protection measure(s) requires application of new technologies or existing technologies in new applications that would facilitate operations outside of the existing equipment specifications.

Commercial Constraint - A commercial constraint exists when implementation of selected freeze protection measure(s) are uneconomical to the extent that they would result in the generating unit not operating or not being put into service at the time of the evaluation.

Operational Constraint – An operational constraint exists when implementation of selected freeze protection measure(s) would cause the generating unit to limit its operations in order to protect either the reliability of the BES, the generating unit itself, the surrounding environment, or personnel.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	
Comment	
OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee's comments. Utility practice is specific to each utility geographical location. Good utility practice is a matter of perception, therefore it's vagueness in respect to this very fluid standard cannot be accurately audited beyond a reasonable doubt. Will "Good enough" receive the seal of approval from the auditors, based on existing practices, if the generating unit has operated from 2000 onward, through the Extreme Cold Weather Temperature without a Generator Cold Weather Reliability Event?	
Likes 1	Hydro-Quebec (HQ), 1, Turcotte Nicolas
Dislikes 0	
Response	

Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	No
Document Name	
Comment	
Although the concept of good utility practice to replace the 3 constraints originally proposed is more appropriate and relevant to use, NRG still believes that the terminology is too generic and open, thus making it too ambiguous and subjective for auditing purposes. However, Inclusion of the examples in the Technical Rationale document does provide better guidance for determination of what may be considered in scope.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
We do not support the use of the phrase “good utility practice” because it is not clear or auditable. We further note that the phrase “good utility practice” is not based on common understanding or general industry use, it is an explicitly defined phrase within the pro forma Open Access Transmission Tariff (I.1.15). As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process	

or consideration on the impact to any NERC Reliability Standard. Additionally, the inclusion of this term runs contrary to the NERC Rules of Procedure Section 300.6 which states "Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance." Regarding auditability, the vagueness of terms included in the definition of "good utility practice" such as "significant portion" and "reasonable cost" allow for a broad range of interpretations regarding what may or may not constitute "good utility practice". We recommend that the Standard Drafting Team identify some other method of complying with the Commission directive surrounding Generator Cold Weather Constraints, which aligns with NERC Rules of Procedure and does not use a term that could change overtime by an entity outside of the control of the NERC standards making process.	
Likes 0	
Dislikes 0	
Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	No
Document Name	
Comment	
Although the concept of good utility practice to replace the 3 constraints originally proposed is more appropriate and relevant to use, NRG still believes that the terminology is too generic and open, thus making it too ambiguous and subjective for auditing purposes. However, inclusion of the examples in the Technical Rationale document does provide better guidance for determination of what may be considered in scope.	

Likes 0	
Dislikes 0	
Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
: Avista does not support the use of the phrase “good utility practice” because it is not clear or auditable. Avista further notes that the phrase “good utility practice” is not based on common understanding or general industry use, it is an explicitly defined phrase within the pro forma Open Access Transmission Tariff (I.1.15). As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process or consideration on the impact to any NERC Reliability Standard. Additionally, the inclusion of this term runs contrary to the NERC Rules of Procedure Section 300.6 which states “Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.” Regarding auditability, the vagueness of terms included in the definition of “good utility practice” such as “significant portion” and “reasonable cost” allow for a broad range of interpretations regarding what may or may not constitute “good utility practice”. We recommend that the Standard Drafting Team identify some other method of complying with the Commission directive surrounding Generator Cold Weather Constraints, which aligns with NERC Rules of Procedure and does not use a term that could change overtime by an entity outside of the control of the NERC standards making process.	
Likes 0	
Dislikes 0	
Response	

Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
NO. We agree with some comments provided by Avista and Talen but are not going to restate each item specifically.	
Likes 0	
Dislikes 0	
Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Michael Whitney - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
We agree with some comments provided by Avista and Talen but are not going to restate each item specifically.	
Likes 0	
Dislikes 0	
Response	

Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	No
Document Name	
Comment	
We agree with some comments provided by Avista and Talen but are not going to restate each item specifically.	
Likes 0	
Dislikes 0	
Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Richard Vendetti - NextEra Energy - 5	
Answer	No
Document Name	
Comment	
The term "auditable" in the question is concerning. The suggested "good utility practice" language lacks clarity on when freeze protection is justified. I recommend the SDT include more specific language in the standard to guide utilities in decision-making and documentation needed to thoroughly respond to audits.	
Likes 0	
Dislikes 0	

Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	No
Document Name	
Comment	
We do not support the use of the phrase “good utility practice” because it is not clear or auditable	
Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	
Response	
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Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	No
Document Name	
Comment	
We do not support the use of the phrase “good utility practice” because it is not clear or auditable	
Likes 0	
Dislikes 0	

Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	No
Document Name	
Comment	
The use of "good utility practice" is too vague and leaves room for the auditor and the entity to disagree on what is a resonable constraint. Recommend putting in the three constraints from the previous draft back in and defining them.	
Likes 0	
Dislikes 0	
Response	
Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Daniel Gacek - Exelon - 1	
Answer	No
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Kinte Whitehead - Exelon - 3	
Answer	No
Document Name	
Comment	
Exelon is supporting EEI response to this question.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	No
Document Name	
Comment	
Tri-State does not agree with the term "good utility practice" as it does not provide clarity and would not be auditable. The term "good utility practice" is broad and will bring many different iterpretations. Tri-State recommends reverting back to the original language: **PREVIOUS DEFINITION:** Generator Cold Weather Constraint - A limitation that would prohibit a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Components. A constraint must fall under one of the following areas:	

• Technical Constraint – A technical constraint exists when there is no known technical solution for addressing the issue or implementation of selected freeze protection measure(s) requires application of new technologies or existing technologies in new applications that would facilitate operations outside of the existing equipment specifications. Technical constraints include technologies that have not been demonstrated for a sufficient period of time in like assets in the BES. • Commercial Constraint – A commercial constraint exists when implementation of selected freeze protection measure(s) are uneconomical to the extent that they would result in the generating unit not operating or not being put into service at the time of the evaluation. • Operational Constraint – An operational constraint exists when implementation of selected freezeprotection measure(s) would cause the generating unit to limit its operations in order to protect either the reliability of the BES, the generating unit itself, the surrounding environment, or personnel.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike	
Answer	No
Document Name	
Comment	
Tacoma Power supports the MRO NSRF comments.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to MRO NSRF.	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	No
Document Name	
Comment	
Minnesota Power supports MRO's NERC Standards Review Forum's (NSRF) comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to MRO NSRF.	
Helen Lainis - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
The 3 examples and the context in the Technical Rationale sets a tighter set of criteria. When filing for regulatory approval, we strongly recommend that NERC request FERC to explicitly review of the Technical Rationale examples and whether this boundary set around "good utility practice' is stringent enough to avoid from having generators opt out of freeze protection measures.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	No
Document Name	
Comment	
Dominion Energy supports EEI comments and is firmly of the opinion that good utility practice should be defined in the Standard rather than in the technical rationale, which carries no weight when compliance is being evaluated. Dominion Energy is of the opinion that to ensure this definition is adhered to by NERC and regional auditors, it should be specifically referenced in the Reliability Standard, possibly by simply adding "…using good utility practice, as defined in the FERC *pro forma* OATT,…" to the current definition.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	No
Document Name	
Comment	

AEPC has signed on to ACES comments:

We at ACES appreciate the effort put forth by the SDT to comply with the FERC order; however we have grave concerns with the use of the phrase “good utility practice” in the definition of “Generator Cold Weather Constraint”. While the term may have a common understanding, this does not automatically mean it is suitable for inclusion in a NERC Reliability Standard. It is our opinion that this newly introduced language is fraught with compliance concerns.
Firstly, it is our opinion that there are several undefined terms and phrases within the term “good utility practice” that are not auditable without further definition and clarification. For instance,
please see the following list and our concern with each:
•
“engaged in or approved by a significant portion”
o
What portion of the electric utility industry is to be considered significant?
o
Which entity will be responsible for determining which practices, methods, and activities the industry is engaged in?
o
Which entity will be responsible for determining which practices, methods, and activities are approved by the industry and how will this approval be obtained?
•
“relevant time period”
o
What time period is considered relevant to Generator Cold Weather Constraints?
•
“reasonable judgment” and “reasonable cost”
o

Use of the phrase “reasonable” may have precedent in a court of law; however, NERC audits are not a court of law. Furthermore, auditors and Registered Entity SME’s may not be, nor are expected to be, lawyers. Thus, additional clarity is needed to determine what should be or should not be considered reasonable.

•
“consistent with good business practices, reliability, safety and expedition”
o
Which entity will be responsible for determining which business practices are “good”?
o
Is not the intent of the NERC Reliability Standards to increase reliability across the industry? If so, it seems more than a bit strange to include a stipulation that an entity may have a constraint that would preclude their compliance with a Reliability Standard Requirement because doing so would not be consistent with reliability.
•
“generally accepted in the region”
o
Which entity will be responsible for objectively determining the various “regions” and in which “region” a given generating station is located?
▪
For example, should region be defined as the Reliability Coordinator Area or the Balancing Authority Area? If so, this would ignore the potentially large variability in both climate and Extreme Cold Weather conditions throughout both areas.
▪
Perhaps it would be more appropriate to define region as a given geographical area? However, this approach presents new and completely different challenges.
•

Weather can often be quite distinct even when considering two locations in close proximity to one another. For example, the various “snowbelts” in the United States and Canada that receive copious amounts of “lake effect” snow each year.

Lastly, in general, we disagree with the use of any defined term within a Reliability Standard that is not defined by NERC and is not included in the NERC Glossary of Terms. In this specific instance, what will the compliance implications be if FERC chooses to modify the definition of “good utility practice” in a future revision of the pro forma OATT?

ACES recommends that the SDT instead work to refine the previous definition of “Generator Cold Weather Constraint” by taking into further consideration prior industry comments on the previously proposed definition. We recommend utilizing language similar to the following:

Generator Cold Weather Constraint(s) – A limitation that would prohibit a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components. A constraint must fall under one of the following areas:

•
Technical Constraint – A technical constraint exists when there is no known technical solution for addressing the issue or implementation of suitable freeze protection measure(s) requires application of new technologies, or existing technologies in new applications, that would facilitate operations outside of the existing equipment specifications.

•
Commercial Constraint - A commercial constraint exists when implementation of suitable freeze protection measures is uneconomical to the extent that it would impact the availability or operational tempo of the generating unit(s).

•
Operational Constraint – An operational constraint exists when implementation of suitable freeze protection measure(s) would cause the generating unit to limit its

operations in order to protect either the reliability of the BES, the generating unit itself, the surrounding environment, or personnel.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen	
Answer	No
Document Name	
Comment	
ISO-NE support the SRC Comments: ISO reiterates the SRC belief that the use of “good utility practice” along with the examples given in the Technical Rationale is not sufficient. ISO-NE agrees that any declared constraints **shall** be reported to NERC and/or the Regional Entity for purposes of compiling a best practices document, such as a new Reliability Guideline.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Andrew Smith - APS - Arizona Public Service Co. - 5	
Answer	No
Document Name	
Comment	
AZPS does not agree with using “good utility practice” without it being defined in the Reliability Standard. AZPS supports EEI’s comment to include the definition in the Reliability Standard so the Standard will not depend on an external definition.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	No
Document Name	
Comment	

Utility practice is specific to each utility geographical location. Good utility practice is a matter of perception, therefore it's vagueness in respect to this very fluid standard cannot be accurately audited beyond a reasonable doubt. Will "Good enough" receive the seal of approval from the auditors, based on existing practices, if the generating unit has operated from 2000 onward, through the Extreme Cold Weather Temperature without a Generator Cold Weather Reliability Event?	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	No
Document Name	
Comment	
Black Hills Corporation does not agree with utilizing the term "good utility practice" as it is not currently defined in the Standard. "Good utility practice" is a defined phrase within the pro forma Open Access Transmission Tariff (I.1.15) and is subject to change by FERC without adherence to the Standard Drafting Process or consideration on the impact to any NERC Reliability Standard(s). In addition, the use of this term is contrary to NERC Rules of Procedure Section 300.6 which state "Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance". If the definition from Open Access Transmission Tariff is added to the Standard, the vagueness of terms included in the definition (i.e. "significant portion" and "reasonable cost") will make auditing difficult and allow for a broad range of interpretations.	
Likes 0	
Dislikes 0	

Response
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.
Rachel Schuldt - Rachel Schuldt On Behalf of: Claudine Bates, Black Hills Corporation, 5, 6, 1, 3; Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt

Answer	No
Document Name	

Comment
Black Hills Corporation does not agree with utilizing the term “good utility practice” as it is not currently defined in the Standard. “Good utility practice” is a defined phrase within the pro forma Open Access Transmission Tariff (I.1.15) and is subject to change by FERC without adherence to the Standard Drafting Process or consideration on the impact to any NERC Reliability Standard(s). In addition, the use of this term is contrary to NERC Rules of Procedure Section 300.6 which state “Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.” If the definition from Open Access Transmission Tariff is added to the Standard, the vagueness of terms included in the definition (i.e. “significant portion” and “reasonable cost”) will make auditing difficult and allow for a broad range of interpretations.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.
Micah Runner - Black Hills Corporation - 1

Answer	No

Document Name	
Comment	
Black Hills Corporation does not agree with utilizing the term “good utility practice” as it is not currently defined in the Standard. “Good utility practice” is a defined phrase within the pro forma Open Access Transmission Tariff (I.1.15) and is subject to change by FERC without adherence to the Standard Drafting Process or consideration on the impact to any NERC Reliability Standard(s). In addition, the use of this term is contrary to NERC Rules of Procedure Section 300.6 which state “Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.” If the definition from Open Access Transmission Tariff is added to the Standard, the vagueness of terms included in the definition (i.e. “significant portion” and “reasonable cost”) will make auditing difficult and allow for a broad range of interpretations.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	No
Document Name	
Comment	
We at ACES appreciate the effort put forth by the SDT to comply with the FERC order; however we have grave concerns with the use of the phrase “good utility practice” in the definition of “Generator Cold Weather Constraint”. While the term may have a common understanding, this does not automatically mean it is suitable for inclusion in a NERC Reliability Standard. It is our opinion that this newly introduced language is fraught with compliance concerns.	

Firstly, it is our opinion that there are several undefined terms and phrases within the term "good utility practice" that are not auditable without further definition and clarification. For instance, please see the following list and our concern with each:

- "engaged in or approved by a significant portion"
  - What portion of the electric utility industry is to be considered significant?
  - Which entity will be responsible for determining which practices, methods, and activities the industry is engaged in?
  - Which entity will be responsible for determining which practices, methods, and activities are approved by the industry and how will this approval be obtained?
- "relevant time period"
  - What time period is considered relevant to Generator Cold Weather Constraints?
- "reasonable judgment" and "reasonable cost"
  - Use of the phrase "reasonable" may have precedent in a court of law; however, NERC audits are not a court of law. Furthermore, auditors and Registered Entity SME's may not be, nor are expected to be, lawyers. Thus, additional clarity is needed to determine what should be or should not be considered reasonable.
- "consistent with good business practices, reliability, safety and expedition"
  - Which entity will be responsible for determining which business practices are "good"?
  - Is not the intent of the NERC Reliability Standards to increase reliability across the industry? If so, it seems more than a bit strange to include a stipulation that an entity may have a constraint that would preclude their compliance with a Reliability Standard Requirement because doing so would not be consistent with reliability.
- "generally accepted in the region"
  - Which entity will be responsible for objectively determining the various "regions" and in which "region" a given generating station is located?
    - For example, should region be defined as the Reliability Coordinator Area or the Balancing Authority Area? If so, this would ignore the potentially large variability in both climate and Extreme Cold Weather conditions throughout both areas.
    - Perhaps it would be more appropriate to define region as a given geographical area? However, this approach presents new and completely different challenges.
      - Weather can often be quite distinct even when considering two locations in close proximity to one another. For example, the various "snowbelts" in the United States and Canada that receive copious amounts of "lake effect" snow each year.

Lastly, in general, we disagree with the use of any defined term within a Reliability Standard that is not defined by NERC and is not included in the NERC Glossary of Terms. In this specific instance, what will the compliance implications be if FERC chooses to modify the definition of "good utility practice" in a future revision of the pro forma OATT?

ACES recommends that the SDT instead work to refine the previous definition of "Generator Cold Weather Constraint" by taking into further consideration prior industry comments on the previously proposed definition. We recommend utilizing language similar to the following:

Generator Cold Weather Constraint(s) – A limitation that would prohibit a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components. A constraint must fall under one of the following areas:

- Technical Constraint – A technical constraint exists when there is no known technical solution for addressing the issue or implementation of suitable freeze protection measure(s) requires application of new technologies, or existing technologies in new applications, that would facilitate operations outside of the existing equipment specifications.
- Commercial Constraint - A commercial constraint exists when implementation of suitable freeze protection measures is uneconomical to the extent that it would impact the availability or operational tempo of the generating unit(s).
- Operational Constraint – An operational constraint exists when implementation of suitable freeze protection measure(s) would cause the generating unit to limit its operations in order to protect either the reliability of the BES, the generating unit itself, the surrounding environment, or personnel.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.

Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	No
Document Name	
Comment	

NV Energy does not agree that the use of “good utility practice” provides sufficient clarity or is auditable and contends that the phrase is unsuitable for use in a reliability standard as currently proposed. The phrase “good utility practice” is not based on common understanding or general industry use, it is an explicitly defined phrase within the pro forma Open Access Transmission Tariff (I.1.15). As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process or consideration on impact to this reliability standard. Additionally, inclusion of this term runs contrary to NERC Rules of Procedure Section 300.6 which states “Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.” Regarding auditability, the vagueness of terms included in the definition of “good utility practice” such as “significant portion” and “reasonable cost” allow for a broad range of interpretations of what may or may not constitute “good utility practice”. NV Energy appreciates the Standard Drafting Team’s efforts on this subject; however, NV Energy recommends that the Standard Drafting Team revert to the language in EOP-012-1 which was in line with NERC rules of procedure and approved by the Registered Ballot Body and NERC Board of Trustees.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Ruchi Shah - AES - AES Corporation - 5	
Answer	No
Document Name	
Comment	
AES Clean Energy does not support the use of the phrase “good utility practice” and is concerned that the term is not auditable and will lead to interpretation issues by CEA. After consulting with internal legal team on how the term is used by FERC, AES Clean Energy has learned that the term has a common usage applicable to transmission and is not commonly used in the context of generation in FERC pro-forma OATT.	

Additionally, the Technical Rationale refers to the FERC OATT definition for the phrase "good utility practice". As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process or consideration on the impact to any NERC Reliability Standard. The inclusion of this term runs contrary to the NERC Rules of Procedure Section 300.6 which states "*Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.*" AES Clean Energy recommends that the Standard Drafting Team identify some other method of complying with the Commission directive surrounding Generator Cold Weather Constraints, which aligns with NERC Rules of Procedure and does not use a term that could change overtime by an entity outside of the control of the NERC standards making process. On any new definition that the Standard Drafting Team will be developing, AES Clean Energy also recommends that the drafting team develop a guidance document to ensure that there is consistent interpretation across the ERO on meaning of the definition.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.

Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	No
Document Name	

Comment
The ISO/RTO Council (IRC) Standards Review Committee (SRC) (consisting, for purposes of these comments, of CAISO, ERCOT, PJM, MISO, NYISO, and SPP) does not believe that the use of the phrase "good utility practice" in the definition combined with the examples given in the Technical Rationale provides sufficient clarity. While the SRC agrees that most of the examples provided in the Technical Rationale are reasonable, the SRC believes that "accelerated retirement of an existing generating unit" is insufficiently auditable and should be revised to "documented notice of planned retirement of an existing generating unit." In addition, the last example, "technology not utilized by a

significant portion of the electric utility industry," is ambiguous and runs counter to the purposes of EOP-012 and should therefore be removed. It is ambiguous because it does not define what would constitute "a significant portion" of the industry. It runs counter to the purpose of EOP-012 because EOP-012 is designed to ensure proper weatherization of generating units, including the use of new weatherization technologies and approaches that may be fully effective despite being too new to have been adopted by a significant portion of the industry. Alternatively, if the intent is to provide a means to declare a constraint for unproven technologies, then the SRC suggests the last bullet be revised to read as follows:

- *Unavailability of technology that provides effective freeze protection.*

Furthermore, the SRC is concerned that "good utility practice" as defined in the technical rationale, although used in other contexts, is poorly suited for use in determining what constitutes a valid Generator Cold Weather Constraint. Specifically, the definition that the technical rationale uses is limited to what can be accomplished "at a reasonable cost" without any guidance as to what constitutes a reasonable cost. This omission means that a unit owner could effectively self-certify that installation of weatherization measures would be unreasonably costly, which would provide little in the way of consistency among unit owners and could allow resource owners to prioritize competitive concerns over reliability. The fact that the Winter Storm Elliott report notes that over 75% of generators that failed to start or experienced derates or outages due to freezing issues during the storm did so at temperatures above their documented design temperatures provides further cause for concern that competitive concerns may be prioritized over reliability in determining whether the cost of weatherization is reasonable.{C}[1] Therefore, the SRC recommends that the concept of "good utility practice" be removed from the definition of a Generator Cold Weather Constraint and from the technical rationale while retaining the list of example constraints in the technical rationale. The SRC proposes that the definition be revised to read as follows:

Any condition that would preclude a Generator Owner from implementing freeze protection measures ***based on the Extreme Cold Weather Temperature (ECWT)*** *on one or more Generator Cold Weather Critical Components* ***due to circumstances beyond the control of the Generator Owner or based on verifiable circumstances limiting the ability to implement freeze protection measures for the generating unit(s). Before declaring a constraint, the GO shall use best efforts to, at a minimum, winterize the generating unit(s) to its documented cold weather operating temperature. Any such declared constraints shall be reported to NERC and/or the Regional Entity for purposes of compiling a best practices document, such as a new Reliability Guideline or Compliance Guidance.***

{C}[1] https://www.ferc.gov/media/winter-storm-elliott-report-inquiry-bulk-power-system-operations-during-december-2022, p. 19.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
BC Hydro appreciates the drafting team's efforts and opportunity to comment, and offers the following. BC Hydro contends that the use of "good utility practice" does not provide sufficient clarity for a consistent implementation across the industry and may pose regulatory issues. Wording used in the good utility practice OATT definition such as "significant portion" or "reasonable cost" do not constitute a robust measure for regulatory compliance. Also, a change of the current "good utility practice" definition can happen outside of the Standards revisions procedures, and therefore may lead to unintended consequences in the compliance monitoring (including audits) and enforcement processes. BC Hydro recommends that "using good utility practice" wording in the proposed definition be replaced with "as determined and documented by the applicable entity" as follows: **Generator Cold Weather Constraint** – any condition, as determined and documented by the applicable entity, that would preclude a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO	
Answer	Yes
Document Name	
Comment	
"Good utility practice" is better than the three examples. We suggest that the additional context provided in the Technical Rationale should be provided in the definition as a footnote.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
FirstEnergy supports EEI's comments which state:	

EEI supports the use of “good utility practice” but recommends the phrase “good utility practice” be defined in the Reliability Standard using the approved FERC pro forma Open Access Transmission Tariff (I.1.15) definition of “good utility practice”. Including the definition in the Reliability Standard aligns with the NERC Rules of Procedure Section 300.6 which states “Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.”	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
WEC Energy Group supports the comments submitted by the Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	Yes
Document Name	

Comment	
PNM & TNMP support EEI's comments related to location of the good utility practice definition being integrated into the EOP-012-2 Standard.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Dane Rogers - Dane Rogers On Behalf of: Donald Hargrove, OGE Energy - Oklahoma Gas and Electric Co., 3, 1, 5, 6; - Dane Rogers, Group Name OG&E	
Answer	Yes
Document Name	
Comment	
OG&E supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Entity Monitoring	
Answer	Yes
Document Name	
Comment	

WECC supports the proposed Reliability Standard but makes the following comments related to auditability for the SDT's consideration.

Phrases that have a common understanding in the industry often get misunderstood when evaluating compliance. The particular phrase "good utility practice" allows for the use of "reasonable judgment" to be utilized. From an auditing perspective, the auditor's professional judgement and professional skepticism would focus on how a utility considered the constraint under the guise of good utility practice. Questions may focus on how an entity developed information to consider the labeling of a constraint. Effectively, an egregious issue will have to be present to call the issue a potential noncompliance. WECC agrees with the SDT making the following statement: "Ultimately, it will be the GO's responsibility to document in the declaration the circumstances and reasons why the modification needed to address the freezing issue was not implemented." If the "good utility practice" language remains, WECC would encourage GOs to sufficiently document the facts associated with calling out a Generator Cold Weather Constraint.

It is not clear if a Generator Cold Weather Constraint is required to be called for the issues noted in R1, R2, R3, and/or R6. Certainly, a CAP is required in the referenced Requirements but R7 only requires a Generator Cold Weather Constraint to be **declared** IF "actions" within a CAP can not be implemented. So, a CAP could be written that may take 24 to 48 months without ever having a declaration and BAs, RCs, GOPs, and TOPs may never know as there is no requirement to inform the entities. Requirement 1 only requires a "once every five calendar year" review. Be clear on the expectations by writing those into the Requirements. Effective reliability (and compliance monitoring) will be more difficult without more explicitness in the language.

The definition of Generator Cold Weather Constraint appears to be significantly broad. While flexibility is a good attribute should the definition be more limiting in terms of "technical" limitations. That may limit reasons that stretch justifications.

As written, the definition of Generator Cold Weather Constraint excludes Generator Operators who may very well be implement all or parts of the cold weather preparedness plans (and may be involved in training for the cold weather preparedness plan which should explain the constraint conditions.) The SDT should consider adding Generator Operator to the definition as follows: "Generator Cold Weather Constraint – Any condition that would preclude a Generator Owner or Generator Operator, using good utility practice, from implementing freeze protection measures on one or more Generator Cold Weather Critical Components." If a Generator Operator is implementing freeze protection measures and cannot do so for some reason, as is, no Generator Cold Weather Constraint may be called. To avoid a major re-writes the GOP should be required to inform the GO if implementation becomes an issue.

Likes 0	
Dislikes 0	

Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Kimberly Turco on behalf of constellation segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Alison Mackellar on behalf of Constellation Segments 5 and 6	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	Yes
Document Name	
Comment	
PG&E agrees the revised definition provides sufficient clarity.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
The utilization of the term “good utility practice” is adequate and provides the proper criteria to allow for the regional and generation technology differences. The term encompasses a reasonableness approach and does not mandate a one-size fits all approach. Southern does agree with EEI in that **defining** the term in the standard is preferred to align with the NERC Rules of Procedure Section 302.6.	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	

While there is still a significant amount of interpretation allowed here, it provides sufficient guidance to the Generator Owners to allow for clear expectations. There is some concern related to the level of expertise needed by an auditor to be able to reasonably enforce this language, as well as a potential for significant differences between the enforcement from one region to another. However, these issues should be addressed by NERC and the regions through their processes, without trying to create more stringent guidelines through the enforcement process.

With this said, the NAGF does not believe that the standard is currently auditable as structured. The use of “good utility practice” does not provide sufficient clarity nor is it auditable and contends the phrase is unsuitable for use in a reliability standard as currently proposed. The phrase “good utility practice” is not based on common understanding or general industry use, it is an explicitly defined phrase within the *pro forma* Open Access Transmission Tariff (I.1.15). As such, the definition is subject to change by FERC without adherence to the Standard Drafting Process or consideration on impact to this reliability standard. Additionally, inclusion of this term without defining it runs contrary to NERC Rules of Procedure Section 302.6 which states “Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.”

There is also some concern that even if NERC defines the term “good utility practice”, it will still require generators to invest in freeze protection measures to increase reliability without the ability to recoup the costs of the investment. The drafting team must provide some support beyond the use of the term “good utility practice” that NERC is not expecting generators to invest in freeze protection measures that are more costly than any expected payback.

To address this issue, the SDT needs to define the term in the NERC Glossary to ensure that the definition is static for the purposes of compliance, clearly addresses the concerns related to costly investments without payback and ensures that changes to the definition goes through the standard drafting process.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports the use of "good utility practice" but recommends the phrase "good utility practice" be defined in the Reliability Standard using the approved FERC pro forma Open Access Transmission Tariff (I.1.15) definition of "good utility practice". Including the definition in the Reliability Standard aligns with the NERC Rules of Procedure Section 302.6 which states "Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance."	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
David Jendras Sr - Ameren - Ameren Services - 3	

Answer	Yes
Document Name	
Comment	
Ameren supports NAGF's comments on this project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to NAGF.	
Rhonda Jones - Invenergy LLC - 5,6	
Answer	Yes
Document Name	
Comment	
Consider adding a "Good Utility Practice" defintion to the NERC Glossary of Terms.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	Yes
Document Name	

Comment	
Consider defining “good utility practice” within the NERC Glossary of Terms or within EOP-012-2.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Natalie Johnson - Enel Green Power - 5	
Answer	Yes
Document Name	
Comment	
Enel agrees with the SDT’s revisions to the definition of Generator Cold Weather Constraint to remove the previously defined constraint types and incorporation of “good utility practice”. However, Enel recommends the SDT incorporate “Good Utility Practice” within the NERC Glossary of Terms Used in Reliability Standards for several reasons. First, pursuant to the NERC Rules of Procedures Section 306.2 “Completeness – Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.” The pro forma OATT is an external document and cannot be used to establish a definition. As this definition is not found within the NERC Glossary of Terms, it is not subject to the NERC Standard Processes Manual, Section 5.0: Process for Developing a Defined Term. Additionally, the reference to the definition of “good utility practice” is only found in the Technical As stated within the introduction of the Technical Rationale “(t)his Technical Rationale and Justification for EOP-012-2 is not a Reliability Standard and should not be considered mandatory and enforceable.”	

Lastly, the referenced definition of “good utility practice” is not enforceable to Canadian entities where NERC Reliability Standards and the Glossary of Terms Used in Reliability Standards are adopted.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ben Hammer - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jeffrey Streifling - NB Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
C. A. Campbell - LS Power Development, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Brittany Millard - Lincoln Electric System - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Thank you for your support.	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Robin Hill - EDP Renewables North America LLC - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Laura Hankins - Laura Hankins On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - Laura Hankins	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	

Texas RE appreciates the drafting's ongoing efforts with this project. In general, Texas RE agrees with the proposed definition of Generator Cold Weather Constraint. Texas RE recommends, however, requiring the GOs to document the circumstances and reasons why the modification needed to address Extreme Cold Weather Temperature (ECWT) issues are not implemented in the declaration. This could be done in requirement part 7.4:

7.4 Document in a declaration the circumstances and reasons why the modification(s) needed to address the required operational capability was not implemented, with justification, any Generator Cold Weather Constraint that precludes the Generator Owner from implementing actions contained within the Corrective Action Plan.

Additionally, Texas RE suggests that the documented plan needs to be submitted to the BA or RC. Texas RE recommends the following additional requirement part:

7.5 Provide the documented Corrective Action Plan and declaration (7.1 - 7.4) to the Balancing Authority or Reliability Coordinator annually. If there are no changes to the previously submitted documentation, GOs shall notify the Balancing Authority or Reliability Coordinator stating no changes made since the previous submission.

Likes 0	
Dislikes 0	
Response	

Thank you for your comment. Generator Cold Weather Constraint definition in the Standard has been updated to include key concepts of Good Utility Practice while providing additional cold weather specific clarifying language to support auditability concerns. This approach fully addresses the concern raised whether standard is self-contained.

See the unofficial comment form for additional information: https://www.nerc.com/pa/Stand/Project202107ExtremeColdWeatherDL/2021-07_Unofficial_Comment_Form_AB%20EOP-012-2_102723.docx

2. Based upon industry comments received, the SDT has re-structured R2 to require generating units to either implement appropriate freeze protection measures or develop a CAP. Do you agree that the revised language provides sufficient clarity? If not, please provide suggested clarifying language.

Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	No
Document Name	
Comment	

The SRC believes that it is unnecessary and counter to the purpose of EOP-012 to include a CAP option in Requirement R2. Requirement R2 applies to generating units with a commercial operation date on or after October 1, 2027, which is almost four years from the present date. Most units that will have a commercial operation date on or after October 1, 2027, have not yet been designed and constructed, and therefore should be designed and constructed to be able to operate at the Extreme Cold Weather Temperature from the date they achieve commercial operations. Furthermore, generating units that are already in the design or construction phase have had ample notice of the requirements being proposed in EOP-012, which further reduces the need for a CAP option in Requirement R2. Any need to accommodate units that are presently under construction and will not begin commercial operations before October 1, 2027 should be addressed in the implementation plan for EOP-012, not through the creation of an unnecessary CAP option in the standard itself.

Likes 0	
Dislikes 0	
Response	

Thank you for your comment. While the SDT understands that units that have not been made commercial yet should have addressed known issues, it is probable that something may occur that will require the unit to have a CAP developed. Therefore, it is believed that in the unlikely event of this occurrence, there needs to be a method to resolve this unlikely situation. Thus, the SDT believes that new units should have the ability to develop a CAP to resolve the situation. This requirement was also changed based on many comments received from previous postings to address concerns submitted at that time.

Micah Runner - Black Hills Corporation - 1	
Answer	No
Document Name	
Comment	

Black Hills Corporation does not agree with the requirement of ensuring that components operate “with sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours” as this is not achievable based on equipment location. Black Hills Corporation recommends striking the “12 continuous hours” from the second bullet of R2.	
Likes 0	
Dislikes 0	
Response	
The SDT has proposed that language in response to previous comments to ensure continuous operations of resources during extreme weather. Therefore, the SDT will retain the language “12 continuous hours” as it is industry and FERC approved from Phase 1.	
Rachel Schuldt - Rachel Schuldt On Behalf of: Claudine Bates, Black Hills Corporation, 5, 6, 1, 3; Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	No
Document Name	
Comment	
Black Hills Corporation does not agree with the requirement of ensuring that components operate “with sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours” as this is not achievable based on equipment location. Black Hills Corporation recommends striking the “12 continuous hours” from the second bullet of R2.	
Likes 0	
Dislikes 0	
Response	
The SDT has proposed that language in response to previous comments to ensure continuous operations of resources during extreme weather. Therefore, the SDT will retain the language “12 continuous hours” as it is industry and FERC approved from Phase 1.	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	No
Document Name	

Comment
Black Hills Corporation does not agree with the requirement of ensuring that components operate “with sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours” as this is not achievable based on equipment location. Black Hills Corporation recommends striking the “12 continuous hours” from the second bullet of R2.

Likes 0	
Dislikes 0	

Response
The SDT has proposed that language in response to previous comments to ensure continuous operations of resources during extreme weather. Therefore, the SDT will retain the language “12 continuous hours” as it is industry and FERC approved from Phase 1.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC

Answer	No
Document Name	

Comment
R2 is applicable to generating units with a commercial operation date on or after October 1, 2027. The unit must be placed in service first, before it is considered an applicable facility, to trigger ECWT calculation under R1. The implementation of freeze protection measures to protect Generator Cold Weather Critical Components that provide the capability to operate at the unit(s)’ Extreme Cold Weather Temperature, comes afterwards and has no implementation timeframe spelled out in the requirement. Theoretically it can take up to five years to have the Extreme Cold Weather Temperature calculated for the specific unit.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. The ECWT is based on the location of the proposed unit and can be calculated prior to operation at which time the ECWT will become effective.

Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen

Answer	No

Document Name	
Comment	
ISO-NE supports the SRC Comments:	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to SRC.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	
Wind speed and time stipulations should not be included. There should not be arbitrary guidance forcing actions in this section. Stations perform their due diligence via walkdowns. Recommend similar 'good utility practice' verbiage in this section.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SAR directed the SDT to include wind speed. The 12 continues hours time stipulation mentioned is previously industry and FERC approved language. Due to the response to the inclusion of the phrase "good utility practice" in other parts of the Standard, the SDT will not be including the language in this Requirement.	
Helen Lainis - Independent Electricity System Operator - 2	
Answer	No

Document Name	
Comment	
Please confirm that when a new unit goes into commercial operation, it must adhere to all NERC reliability standards, including EOP-012.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. All NERC registered entities are required to adhere to any currently effective and enforceable Reliability Standards for which their registration is applicable and for which they own applicable facilities. EOP-012-2 also distinguishes by date of commercial operation.	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	No
Document Name	
Comment	
We support OPG and Manitoba Hydro comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. Please see response to OPG and Manitoba Hydro.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	No
Document Name	
Comment	
We support OPG and Manitoba Hydro comments.	

Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	

Response

Thank you for your comments. Please see response to OPG and Manitoba Hydro.

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer	No
Document Name	

Comment

N/A to NCPA.

Likes 0	
Dislikes 0	

Response

Thank you for your review.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer	No
Document Name	

Comment

OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee's comments.

R2 is applicable to generating units with a commercial operation date on or after October 1, 2027. The unit must be placed in service first, before it is considered an applicable facility, to trigger ECWT calculation under R1. The implementation of freeze protection measures to protect Generator Cold Weather Critical Components that provide the capability to operate at the unit(s)' Extreme Cold Weather Temperature, comes afterwards and has no implementation timeframe spelled out in the requirement. Theoretically it can take up to five years to have the Extreme Cold Weather Temperature calculated for the specific unit.

Likes 0	
Dislikes 0	

Response

Thank you for your comment. The ECWT is based on the location of the proposed unit and can be calculated prior to operation at which time the ability to operate at the ECWT will be required.

Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO

Answer	No
Document Name	

Comment

Specifically for hydraulic generating units, the majority (if not all) generator cold weather critical components will be excluded because they are located inside the powerhouse. Will some type of documentation be required to prove there are no generating cold weather critical components located outside? What happens if a GSU is replaced after October 1, 2027 and it is located outside? Would just the GSU be considered the cold weather critical component of this generating unit? The temperatures specified in R2 (below 32F) is normal operating conditions for our outside equipment. There seems to be a focus on wind speed which makes these requirements hard to apply to hydraulic generators and GSUs. It appears there will be a lot of administration to ensure compliance especially if it is only due to the GSU. Dated evidence could be the control cabinet has been spec'd with a heater? Completed work orders the heater was functionally tested? Cold weather is annual in Manitoba, and this appears to be extra paperwork without improving reliability.

In 2022, the total days with a minimum temperature below 32 degrees Fahrenheit (zero degrees Celsius) are 183 days for our south generating units and 216 days for our north generating units.

Our generating units operate below 32 degrees Fahrenheit (zero degrees Celsius) for more than half a year. Cold weather operation is our normal operation.

Likes 1	Hydro-Quebec (HQ), 1, Turcotte Nicolas
Dislikes 0	

Response

The SDT cannot answer specific questions about given situations. Entities must show compliance to the standard as written. Additionally, The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to

demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.

Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	
Reclamation does not agree with the addition of “with sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours” as the addition of multiple variables may or may not affect equipment based on the location of the equipment. There is no guidance or direction on how to utilize this information, i.e. calculations, measurements, etc. Wind speed measurement equipment at hydropower facilities do not exist and it is impossible to predict variants from one hour to the next. This is an undue burden to install new equipment with constant monitoring while no technical rationale that this requirement will increase reliability of equipment operation in cold weather.	
Likes 0	
Dislikes 0	
Response	
The SDT has proposed that language in response to previous comments to ensure continuous operations of resources during extreme weather. Therefore, the SDT will retain the language “12 continuous hours” as it is industry and FERC approved from Phase 1.	

Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
The ECWT plus 20 mph wind is not a suitable design criterion for new plants, because it generally does not cover the generation capacity crises that NERC is trying to address. We have for example some Texas plants with an ECWT of 27 F, which when combined with the 20 mph wind speed of EOP-012-2 R2 yields a wind chill temperature (WCT) of 13.4 F. These facilities experienced during Winter Storm Uri a dry bulb temperature of 17 F with 0 F	

WCT. Requirement R2 of EOP-012-2 will establish a common mode failure scenario for Uri-like storms as a continent-wide design criterion, rather than being presently a sometimes-encountered flaw .

As to how this situation came about, the EOP-012-1 Technical Rationale document statement that “design professionals…use a statistical approach,” to set wintertime design temperatures does not give a full picture. Heat tracing, insulation and other generation plant freeze prevention measures are not HVAC systems, because exceeding the design conditions forces plants offline rather than just creating a deviation from the comfort zone.

Designing for worst-historical weather accordingly was GUP back when powerplants were electric utility companies. The far weaker heat tracing/insulation systems resultant from applying HVAC-like statistical temperature cutoffs became widespread only when the generation industry was deregulated. This was ostensibly a cost-benefit optimization measure (market GUP vs public policy GUP once again), but has had disastrous results for grid operators and GO/GOPs alike.

A statistical approach can however lead to reliable designs if applied with due rigor, e.g. using the 50-year recurrence temperature of the dominant authority on the subject, ASHRAE (http://ashrae-meteo.info/v2.0/places.php?continent=North%20America). Their design temperature values look nothing like NERC’s ECWT, however. We have for example a plant with an ECWT of -1 F and ASHRAE recurrence values of -9.7 F for 10 years, -13.4 F for 20 years and -18.3 F for 50 years. The plant was fortunately designed (prior to deregulation) for -25 F/30 mph, but a new plant next door wouldn’t get through a repetition of the 2014 Polar Vortex if designed for -1 F/20 mph.

R2 of the current EOP-012-2 draft should be overhauled from start to finish, working with design professionals from an independent authority such as ASHRAE.

Likes 0	
Dislikes 0	

Response

The SDT appreciates your comment, however due to FERC Orders, the industry must provide a standard to address extreme cold weather, and therefore, the draft cannot be restarted at this time.

Ben Hammer - Western Area Power Administration - 1,6

Answer	No
Document Name	

Comment

The requirement of ensuring that the components operate “with sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours” is not achievable. There is no technical rationale provided that the windspeed and duration requirement will affect equipment operation. Also, there is no guidance or direction on how to utilize this information, i.e. calculations, measurements, etc. Wind speed measurement equipment at hydropower facilities

do not exist and it is impossible to predict variants from one hour to the next. This is an undue burden to install new equipment with constant monitoring while no technical rationale that this requirement will increase reliability of equipment operation in cold weather.	
Likes 0	
Dislikes 0	
Response	
The SDT has proposed that language in response to previous comments to ensure continuous operations of resources during extreme weather. Therefore, the SDT will retain the language “12 continuous hours” as it is industry and FERC approved from Phase 1.	
Thomas Foltz - AEP - 5	
Answer	No
Document Name	
Comment	
AEP recommends striking the “12 continuous hours” from the second bullet of R2, as it is unnecessary and incongruent with the obligations for both operating existing generation and new generation. R2 and R3 are not drafted in a way which align with each other, nor with the definition of Cold Weather Event. A CAP is required for a Cold Weather Event, so what exactly does the text regarding a 12 continuous hour obligation contribute?	
Likes 0	
Dislikes 0	
Response	
The SDT has proposed that language in response to previous comments to ensure continuous operations of resources during extreme weather. Therefore, the SDT will retain the language “12 continuous hours” as it is industry and FERC approved from Phase 1.	
Natalie Johnson - Enel Green Power - 5	
Answer	Yes
Document Name	
Comment	
No comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
David Jendras Sr - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren supports NAGF's comments on this project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see response to NAGF.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI agrees the revised language is clear.	
Likes 0	
Dislikes 0	
Response	

Thank you for your support.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
The NAGF agrees that the revised language clearly expresses what is required of a new unit.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
This change is sufficiently clear on the requirement.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Andrew Smith - APS - Arizona Public Service Co. - 5	
Answer	Yes

Document Name	
Comment	
AZPS agrees with the change to R2 language.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	Yes
Document Name	
Comment	
PG&E agrees the revised language provides sufficient clarity.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments.	

Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Kimberly Turco on behalf of constellation segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Kinte Whitehead - Exelon - 3	
Answer	Yes
Document Name	
Comment	
Exelon is supporting EEI response to this question.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
The option to declare a constraint should be a subrequirement of R2.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The second bullet in R2 required a CAP if a unit cannot operate at the ECWT. The CAP process in R7 is where a constraint may be declared if it meets the criteria in the definition of Generator Cold Weather Constraint.	

Glen Farmer - Avista - Avista Corporation - 5	
Answer	Yes
Document Name	
Comment	
Avista agrees the revised language is clear.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dane Rogers - Dane Rogers On Behalf of: Donald Hargrove, OGE Energy - Oklahoma Gas and Electric Co., 3, 1, 5, 6; - Dane Rogers, Group Name OG&E	
Answer	Yes
Document Name	
Comment	
OG&E supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments, please see response to EEI.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	Yes
Document Name	
Comment	

We agree the revised language is clear.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	Yes
Document Name	
Comment	
PNM & TNMP agrees that the proposed language changes are clear.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
FirstEnergy has no objection to this revised language.	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group	
Answer	Yes
Document Name	
Comment	
Yes, MRO NSRF agrees the proposed “either/or” language provides sufficient clarity. *Paragraph 88 directed NERC to revise EOP-012 to require a shorter implementation period and staggered implementation for unit(s) in a generator owner’s fleet. Such an approach will reduce reliability risks more quickly.*	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	Yes
Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Robert Follini - Avista - Avista Corporation - 3	
Answer	Yes
Document Name	
Comment	
Avista agrees the revised language is clear.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rhonda Jones - Invenergy LLC - 5,6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ruchi Shah - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Laura Hankins - Laura Hankins On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - Laura Hankins	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Robin Hill - EDP Renewables North America LLC - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Thank you for your support.	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Richard Vendetti - NextEra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Brittany Millard - Lincoln Electric System - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
C. A. Campbell - LS Power Development, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Jeffrey Streifling - NB Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	

Response
Thank you for your support.

Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	

Comment
Texas RE is concerned the phrase “and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius)” in Requirements R2, R3 and R6 is ambiguous. Texas RE believes the SDT’s intent is to exempt certain generators that may only be called upon in emergency operating conditions from the full scope of the EOP-012 cold weather preparedness planning and operating requirements. However, Texas RE believes these situations are best handled through the submission of a documented exemption from requirements. This process will ensure clarity on which resources are required to operate and therefore adopt appropriate winterization measures. Texas RE suggests the following language for R2, R3 and R6 consistent with this approach (changes in bold): R2. Applicable to generating units with a commercial operation date on or after October 1, 2027: Each Generator Owner, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1, **and unless received a documented exemption from its Balancing Authority or Reliability Coordinator, and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius),** shall: R3. Applicable to generating unit(s) in commercial operation prior to October 1, 2024: Each Generator Owner, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1, **and unless received a documented exemption from its Balancing Authority or Reliability Coordinator, and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius**), shall: R6. Each Generator Owner shall, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1 **and unless received a documented exemption from its Balancing Authority or Reliability Coordinator, and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius**), develop a Corrective Action Plan when the generating unit experiences a Generator Cold Weather Reliability Event. The Corrective Action Plan shall be developed within 150 days or by July 1, whichever is earlier, and contain at a minimum:

Likes 0	

Dislikes 0	

Response
The SDT does not believe that the added documentation for the exemption is necessary and provides an unnecessary accounting for auditing purposes for an entity. Therefore, the language was not added.

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Entity Monitoring	
Answer	
Document Name	

Comment
The addition of Corrective Action Plans allows an entity to not plan now in terms of cold weather preparedness and simply provide a 24/48 month CAP. CAPs are needed if there is an incomplete success of a cold weather preparedness plan's freeze protection measures but the language provided allows an entity to not implement freeze protection measures. It is noted that there is not a validation or approval of the CAP performed by any other entity. WECC questions whether that should be a consideration to support the good utility practice approach provided by the SDT? It is unfortunate that there is an exemption for generating units that may be called upon to assist in the mitigation of BES Emergencies, Capacity Emergencies, or Energy Emergencies when experiencing freezing (or below freezing) weather. From a reliability standpoint a unit is being called upon that may not be ready and will possibly exacerbate the issue because of the exemption.

Likes 0	
Dislikes 0	

Response
Thank you for your response. The SDT does not believe that having additional validation or approval is necessary for the CAP and no changes were made to the language in the Standard.

Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	
Document Name	

Comment
N/A to NCPA.

Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Michael Whitney - Northern California Power Agency - 3,4,5,6	
Answer	
Document Name	
Comment	
N/A to NCPA	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	

See the unofficial comment form for additional information: https://www.nerc.com/pa/Stand/Project202107ExtremeColdWeatherDL/2021-07_Unofficial_Comment_Form_AB%20EOP-012-2_102723.docx **3. In order to meet the FERC directive and reduce reliability risks more quickly, the SDT added new Requirement R7 Part 7.1.3 *"For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units."* Do you agree with this proposed language? If you do not agree, please provide your recommended language.**	
Thomas Foltz - AEP - 5	
Answer	No
Document Name	
Comment	
AEP is concerned by the proposed R7.1.4 which states "For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units." We believe the phrase "shall stagger" is overly prescriptive and should not be used within the requirement. As an alternative, we suggest instead stating "Shall implement each CAP developed in Requirement R6, and update each CAP if actions or timetables change, until completed." This aligns with how the CAP is managed in obligations within PRC-004 R6. To further support this, AEP recommends that language be added to the Technical Rationale document to make it clear that CAPs may be written per unit, per plant, or for a fleet as a whole, as appropriate for the reliability need at hand.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	No

Document Name	
Comment	
This language leaves some ambiguity concerning the impact of staggering a CAP across multiple units versus the 48-calendar month completion requirement. For example, if a CAP was applicable across 3 units, and required 48 months for implementation, the subsequent CAP plan completions dates for the 2nd and 3rd until might exceed the 48-calendar month window from completion of the development of the CAP.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Robert Follini - Avista - Avista Corporation - 3	
Answer	No
Document Name	
Comment	
Avista does not support the proposed language contained in Requirement R7, part 7.1.4. While we appreciate the Standard Drafting Team's efforts to closely align language with the FERC Order, we are concerned that the proposed change, could be understood to require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly and wholly resolve the issue. We suggest the following language (see proposed changes in boldface): 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan **MAY shall** stagger implementation across those generating units, **if doing so would not unduly delay the completion of the Corrective Action Plan.**	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Ben Hammer - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
7.1.3 does not identify the “stagger implementation method”, this is identified in 7.1.4. WAPA doesn't agree with the implementation of this requirement as any addition to freeze protection measures will be based on manpower, cost, outages and scheduling. This will automatically ensure any implementation is staggered.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
Staggering is not always beneficial, so it should be an option and not a requirement. Upgrading insulation for the several units of a combined cycle plant, for example, would best be done in a single outage, not at separate times. Also, crews seamlessly move from one unit to the next	

for unobtrusive retrofits, such as installing wind breaks, and GO/GOPs should not have add pauses to prove that they sufficiently staggered the work for NERC compliance purposes.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	
7.1.3 does not identify the “stagger implementation method”, this is identified in 7.1.4. Do not agree with the implementation of this requirement as any addition to freeze protection measures will be based on manpower, cost, outages and scheduling. This will automatically ensure any implementation is staggered.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	No
Document Name	
Comment	

R7.1.4 should be changed from using the word “shall”, to using the word “should” or the phrase “should or may use”. For implementing a corrective action across a fleet of generators, a staggered implementation is more likely to occur than simultaneous implementation. Modifications of almost any scale are likely to complete at different time even when implemented together.

The “current” wording of R7.1.4 will do the following:

1. Delay the implementation of actions to meet the staggered requirement of R7.1.4.

2. Create regulatory burden for the GOs, for an action that does not benefit equipment reliability. (IE ensuring Staggered approach)

3. Prevent the simultaneous implementation of programmatic or procedural changes across multiple units if required by a corrective action.

Likes 0	
Dislikes 0	

Response

Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.

Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group

Answer	No
Document Name	

Comment

No, MRO NSRF does not agree with the proposed language. While MRO NSRF can appreciate the Standard Drafting Team’s intent by directly copying language from the FERC Order, MRO NSRF does not believe that having language in a mandatory and enforceable reliability standard which, if taken in its plain meaning, would require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly wholly resolve the issue. MRO NSRF suggests the following language:

7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units, ***if doing so would not unduly delay the completion of the Corrective Action Plan***.

In the case that this standard passes ballot, MRO NSRF would hold that this language would constitute a non-substantive change as it is in line with the intent of the language in FERC order and subsequently the proposed language within this standard.

In P 64 of the FERC order, the Commission expressed concern that a generator owner may make a constraint declaration without informing planning and operational entities (e.g., the balancing authority) that are expecting the reliable operation of the generating unit to its Extreme Cold Weather Temperature. To address this concern, the SDT has developed R8 to require the GO to update the generating unit's data specification regarding operational limitations to the generator unit's capability and availability under R1.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.

Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	
Comment	

OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee's comments.

Requirement above does not necessarily meet the intent of the FERC directive to reduce reliability risks more quickly for the following reasons:

- Requirement R7 Part 7.1.3. of the latest proposed draft EOP-012-2 is as follow: "List the updates to the cold weather preparedness plan required under Requirement R4 to identify the updates or additions to the Generator Cold Weather Critical Components and their freeze protection measures; and" and this is different than what is quoted above.
- If the comment is in reference to Requirement R7 Part 7.1.4. "For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units.", then the unintended consequence is that the entity shall include a timetable for implementing the selected corrective action(s) that **shall**, according to the requirement R7 Part 7.1.4, have **stagger** implementation across those generating units, even though staggering may not be required, hence introducing a delay in the reduction of the reliability risks.

Suggested wording to achieve the shorter implementation period as per FERC order intent:

7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan [delete word "shall"] **may** stagger implementation across those generating units.

Likes 1	Hydro-Quebec (HQ), 1, Turcotte Nicolas
Dislikes 0	

Response
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.

Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	No
Document Name	

Comment	
PNM & TNMP recommends guidance on the timelines for staggering the CAPs. Specifically, are CAP timelines restricted to 24 calendar months (7.1.1) and 48 calendar months (7.1.2)?	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	No
Document Name	
Comment	
Although this allows flexibility for the company to create a staggered implementation based upon budget and outage timeframes, it adds more complexity for a company to manage and poses much more difficulty from an auditable perspective. It seems much simpler to propose an implementation by percentage based upon timeframe.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No

Document Name	
Comment	
We do not support the proposed language contained in Requirement R7, part 7.1.4. While we appreciate the Standard Drafting Team's efforts to closely align language with the FERC Order, we are concerned that the proposed change could be understood to require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly and wholly resolve the issue. We suggest the following language (see proposed changes in boldface): 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan **may** stagger implementation across those generating units, **if doing so would not unduly delay the completion of the Corrective Action Plan.**	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	No
Document Name	
Comment	
Although this allows flexibility for the company to create a staggered implementation based upon budget and outage timeframes, it adds more complexity for a company to manage and poses much more difficulty from an auditable perspective. It seems much simpler to propose an implementation by percentage based upon timeframe.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
Avista does not support the proposed language contained in Requirement R7, part 7.1.4. While we appreciate the Standard Drafting Team's efforts to closely align language with the FERC Order, we are concerned that the proposed change, could be understood to require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly and wholly resolve the issue. We suggest the following language (see proposed changes in boldface): 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan **may shall** stagger implementation across those generating units, **if doing so would not unduly delay the completion of the Corrective Action Plan.** *In P 64 of the FERC order, the Commission expressed concern that a generator owner may make a constraint declaration without informing planning and operational entities (e.g., the balancing authority) that are expecting the reliable operation of the generating unit to its Extreme Cold Weather Temperature. To address this concern, the SDT has developed R8 to require the GO to update the generating unit's data specification regarding operational limitations to the generator unit's capability and availability under R1.*	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	

Comment	
NO. We agree with some comments provided by Avista and AEP but are not going to restate each item specifically, as others have already restated them.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Michael Whitney - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
We agree with some comments provided by Avista and AEP but are not going to restate each item specifically, as others have already restated them.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
C. A. Campbell - LS Power Development, LLC - 5	
Answer	No

Document Name	
Comment	
We understand the intent of FERC to discourage procrastination of completing CAPs, however power plants have limited windows to plan for these actions. It may not be possible or feasible to 'stagger' CAP activities, especially if a scheduled outage is focused on critical maintenance and testing to meet other NERC requirements. Additionally, if there are multiple units that have similar CAPs, it may not be possible or practical to stagger them, as doing so would require multiple visits from the same vendor which increases costs and interferes with other planned maintenance; this introduces a risk to operational reliability. We would recommend removal of "shall" and instead consider using "where practical and feasible, stagger…". Using the word "shall" becomes another prescriptive area to audit unnecessarily as it adds no value. Determining whether or not the Entity 'staggered' adds an administrative burden to both the Entity and the auditor.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	No
Document Name	
Comment	
For multiple units that reside together, or within close proximity to one another, being required to stagger implementation of a CAP across those units may not be the most technically feasible or economic way to implement a CAP. For that reason, TAL suggests that the entity should be allowed to use good utility practices to decide whether a CAP implementation should be staggered, or not. Therefore, TAL proposes that Requirement R7 Part 7.1.4 be revised as follows:	

7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan ***may*** stagger implementation across those generating units.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	No
Document Name	
Comment	
We agree with some comments provided by Avista and AEP but are not going to restate each item specifically, as others have already restated them.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Richard Vendetti - NextEra Energy - 5	
Answer	No
Document Name	
Comment	

The question is confusing as the wording appears to be part 7.1.4. and not 7.1.3 as stated; The added language does not appear to align with the intent in regard to reduced reliability risks. In addition, the added language appears to be stringent on implementation of the CAP. Recommend removal of part 7.1.4 of R7. The added language in 7.1.4 appears to be stringent upon implementation. Does not give the ability to do all at once with "shall stagger" approach.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	No
Document Name	
Comment	
We support OPG's comments.	
Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	
Response	
Thank you for your comment. Please see response to OPG's comment.	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	No

Document Name	
Comment	
We support OPG's comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see response to OPG's comment.	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	No
Document Name	
Comment	
Tri-State agrees with the MRO NSRF proposed language: *"7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units,* ***if doing sowould not unduly delay the completion of the Corrective Action Plan****."*	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike	

Answer	No
Document Name	
Comment	
Tacoma Power supports the MRO NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to MRO NSRF.	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	No
Document Name	
Comment	
Minnesota Power supports MRO's NERC Standards Review Forum's (NSRF) comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to MRO NSRF.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	No
Document Name	
Comment	

This language is confusing and unnecessary. Entities should be free to determine the appropriate methodology for implmenting a CAP based on their own unique facts and circumstances rather than mandating anapproach which could cause additional cost and delay.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	No
Document Name	
Comment	
AEPC signed on to ACES comments: We at ACES appreciate the intent of the SDT when crafting this new Requirement Part; however, we do not agree that the GO should be required to stagger implementation of freeze protection measures. It is conceivable that the CAP(s) could be more economically or expeditiously completed without staggering the implementation across generating units. We recommend the following change: 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan may allow for staggering the implementation across those generating units.	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	
The noted language appears to be in Part 7.1.4 rather than Part 7.1.3. We recommend the word “shall” be replaced with “may” in Part 7.1.4. Otherwise, it seems that staggered implementation is being mandated. Why force a GO to stagger their corrective actions if they can be performed concurrently without degrading System reliability? The High VSL does not account for contingency actions. The timetable is too restrictive due to the nature of nuclear projects. Recommend removing time requirements and only tracking in the GO’s Corrective Action Plan. Nuclear corrective actions are documented and maintained in accordance with 10CFR50 Appendix B.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen	
Answer	No
Document Name	
Comment	

ISO-NE supports the SRC Comments:	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see response to SRC.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	No
Document Name	
Comment	

Requirement above does not necessarily meet the intent of the FERC directive to reduce reliability risks more quickly for the following reasons:

{C}Ø Requirement R7 Part 7.1.3. of the latest proposed draft EOP-012-2 is as follow: “List the updates to the cold weather preparedness plan required under Requirement R4 to identify the updates or additions to the Generator Cold Weather Critical Components and their freeze protection measures; and” and this is different than what is quoted above.

{C}Ø If the comment is in reference to Requirement R7 Part 7.1.4. “For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units.”, then the unintended consequence is that the entity shall include a timetable for implementing the selected corrective action(s) that **shall**, according to the requirement R7 Part 7.1.4, have **stagger** implementation across those generating units, even though staggering may not be required, hence introducing a delay in the reduction of the reliability risks.

Suggested wording to achieve the shorter implementation period as per FERC order intent:

7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall **may** stagger implementation across those generating units.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Robin Hill - EDP Renewables North America LLC - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	
EDP Renewables NA supports the comments submitted by the NAGF.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see response to NAGF.	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	No
Document Name	
Comment	
Black Hills Corporation does not agree, though this staggered implementation approach may allow entities more flexibility based upon their budget and outage timeframes, it adds more complexity to manage and poses more difficulty to audit without necessarily reducing reliability	

risks. Entities should have the option to implement concurrently and/or staggered for what best meets the needs, budgets, and timelines of the organization for efficient completion. This should be an option and not a requirement.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Rachel Schuldt - Rachel Schuldt On Behalf of: Claudine Bates, Black Hills Corporation, 5, 6, 1, 3; Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	No
Document Name	
Comment	
Black Hills Corporation does not agree, though this staggered implementation approach may allow entities more flexibility based upon their budget and outage timeframes, it adds more complexity to manage and poses more difficulty to audit without necessarily reducing reliability risks. Entities should have the option to implement concurrently and/or staggered for what best meets the needs, budgets and timelines of the organization for efficient completion. This should be an option and not a requirement.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Micah Runner - Black Hills Corporation - 1	
Answer	No

Document Name	
Comment	
Black Hills Corporation does not agree, though this staggered implementation approach may allow entities more flexibility based upon their budget and outage timeframes, it adds more complexity to manage and poses more difficulty to audit without necessarily reducing reliability risks. Entities should have the option to implement concurrently and/or staggered for what best meets the needs, budgets and timelines of the organization for efficient completion. This should be an option and not a requirement.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	
The addition of this language provides neither increased reliability nor faster implementation of the standard. For the purposes of the Corrective Action Plans, it does not provide any measurable separation required for. In addition, over time, it is more likely to cause implementation of corrective actions to be delayed rather than applied sooner. This statement is based on the expectation that once we are beyond the first year CAPs, CAPs will be scheduled for the end of the initial 24 months. Therefore, any CAPs needed to be implemented for an event in the second year of enforcement will likely be pushed further out to meet the staggered implementation requirement. FERC's order for a staggered implementation plan has been addressed in a much more meaningful manner by incorporating a shorter implementation period from what was originally proposed in EOP-012-1. Instead of a five-year lumped implementation plan, the revised standard will be fully implemented within 24 months as proposed.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	No
Document Name	
Comment	
We at ACES appreciate the intent of the SDT when crafting this new Requirement Part; however, we do not agree that the GO should be required to stagger implementation of freeze protection measures. It is conceivable that the CAP(s) could be more economically or expeditiously completed without staggering the implementation across generating units. We recommend the following change: 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan may allow for staggering the implementation across those generating units.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
David Jendras Sr - Ameren - Ameren Services - 3	
Answer	No
Document Name	
Comment	

Ameren supports NAGF's comments on this project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see response to NAGF.	
Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	No
Document Name	
Comment	

NV Energy does not agree with the proposed language. While NV Energy can appreciate the Standard Drafting Team's intent by directly copying language from the FERC Order, NV Energy does not believe that having language in a mandatory and enforceable reliability standard which, if taken in its plain meaning, would require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly wholly resolve the issue. NV Energy suggests the following language:

7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the

Corrective Action Plan shall stagger implementation across those generating units, ***if doing so would not unduly delay the completion of the Corrective Action Plan***.

In the case that this standard passes ballot, NV Energy would hold that this language would constitute a non-substantive change as it is in line with the intent of the language in FERC order and subsequently the proposed language within this standard.

Likes 0	

Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Ruchi Shah - AES - AES Corporation - 5	
Answer	No
Document Name	
Comment	
AES Clean Energy agrees with NAGF's comments to this question. FERC's order for a staggered implementation plan has been addressed in a much more meaningful manner by incorporating a shorter implementation period from what was originally proposed in EOP-012-1.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Natalie Johnson - Enel Green Power - 5	
Answer	No
Document Name	
Comment	
Enel does not agree with the proposed Requirement R7. First, the proposed language would require a staggered implementation, regardless of effectiveness of implementation of the Corrective Action Plan.	

Enel would like to propose the SDT use the following language for Requirement R7: "…that addresses multiple generating units…." since the term "generating unit" has been defined within Section 4.2 Facilities. Enel is also concerned with the introduction of "multiple (generating) units in a fleet" as the term "fleet" is not commonly used within the NERC Reliability Standards. Inverter based resources aggregating to over 75 MVA could be considered a fleet, or multiple inverted based resources GO registrations under the same parent corporation could also be considered a fleet depending on the interpretation. Suggested language: For one of more Corrective Action Plan(s) that address multiple generating units, the Corrective Action Plan shall stagger implementation across those generating units using Good Utility Practice, where practical.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	No
Document Name	
Comment	
The SRC requests that Part 7.1.4 be revised to require GOs to document the justification for the staggering approach adopted.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
WEC Energy Group supports the comments submitted by the Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Dane Rogers - Dane Rogers On Behalf of: Donald Hargrove, OGE Energy - Oklahoma Gas and Electric Co., 3, 1, 5, 6; - Dane Rogers, Group Name OG&E	
Answer	Yes
Document Name	
Comment	
OG&E supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Daniel Gacek - Exelon - 1	

Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Kinte Whitehead - Exelon - 3	
Answer	Yes
Document Name	
Comment	
Exelon is supporting EEI response to this question.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	
Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	
Comment	

Constellation agrees that the revised language does clarify the creation of a timeline with specified completion dates and a path to resolution, i.e., issuing a constraint, if the implementation dates cannot be met. However, for large fleets/large numbers of modifications it may be recognized at the CAP creation that the EOP-012 CAP completion dates are unrealistic, forcing entities to create constraint declarations at the same time the CAP is created. Kimberly Turco on behalf of constellation segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	
Constellation agrees that the revised language does clarify the creation of a timeline with specified completion dates and a path to resolution, i.e., issuing a constraint, if the implementation dates cannot be met. However, for large fleets/large numbers of modifications it may be recognized at the CAP creation that the EOP-012 CAP completion dates are unrealistic, forcing entities to create constraint declarations at the same time the CAP is created. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	Yes
Document Name	
Comment	
PG&E agrees the proposed language addressed the FERC directive to reduce reliability risks more quickly.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response.	
Andrew Smith - APS - Arizona Public Service Co. - 5	
Answer	Yes
Document Name	
Comment	
AZPS agrees with the proposed language and supports EEI's recommended additional language submitted with their comments to clarify the staggering of implementation of the Corrective Action Plan.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to EEI.	

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern agrees with the proposed wording. Since the implementation period has been shortened from EOP-012-1, this is a reasonable approach. Many freeze protection measures will likely need to occur during outages and require planning (budget, materials and labor) such that a natural staggering most likely occur without a rigid requirement. Southern also supports the proposed EEI Draft language below as it does not change the intent of 7.1.4 and believes this is not a substantive change that could be made prior to final ballot. 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units, **if doing so would not unduly delay the completion of the Corrective Action Plan.**	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	

While EEI supports the proposed language contained in Requirement R7, part 7.1.4, it could be understood to require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly and wholly resolve the issue. We recommend the following language to address this concern (see proposed changes in boldface): 7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units, **if doing so would not unduly delay the completion of the Corrective Action Plan.** In the event this standard passes ballot, this change could still be implemented because it is a non-substantive change that is in-line with the intent of the language in the FERC order.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jeffrey Streifling - NB Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Brittany Millard - Lincoln Electric System - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Laura Hankins - Laura Hankins On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - Laura Hankins	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rhonda Jones - Invenergy LLC - 5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	
Document Name	
Comment	

FirstEnergy supports EEI's comments which state:

While EEI supports the proposed language contained in Requirement R7, part 7.1.4, it could be understood to require staggering implementation of a Corrective Action Plan even if simultaneous implementation would more quickly and wholly resolve the issue. We recommend the following language to address this concern (see proposed changes in boldface):

7.1.4. For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units, **if doing so would not unduly delay the completion of the Corrective Action Plan.**

In the event this standard passes ballot, this change could still be implemented because it is a non-substantive change that is in-line with the intent of the language in the FERC order.

Likes 0	
Dislikes 0	
Response	

Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Entity Monitoring	
Answer	
Document Name	
Comment	
The language provided may not meet FERC's possible meaning provided by the language in P88 regarding staggered implementation. Specifically, FERC referenced MOD-025 contained an approach for the Standard as a whole with a percentage of applicable units "staggered" over five (5) calendar years to get to 100%. The language as written provides staggering for CAPs not the Standard. Care needs to be taken with "staggered" or "phased-in" implementation language to ensure fairness as well as recognize efforts needed to implement Requirements for various sizes of entities. Industry should consider how to address single or lower-count Generator Owners. If language is written as "XX% of units must be completed by year Y" a single unit GO would need to be completed by year Y regardless of the percentage noted. WECC appreciates the reasonable approach to implementing CAPs that may affect multiple units and supports the concept of reducing reliability risks quickly. However, it is not clear if there is staggering within the 24/48 month timeline or staggered past that time frame (i.e., beyond 24/48 months). If the language stays the SDT should fully explain what the phrasing means to avoid confusion in the industry as well as possible assumptions when compliance monitoring starts.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	

Document Name	
Comment	
Texas RE recommends clarifying what is meant by “shall stagger implementation” in Requirement part 7.1.4 as the phrase is vague and could be interpreted to mean various things to different registered entities.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In reviewing responses to question 3, the Standard Drafting Team agrees with industry that R7.1.4 was perhaps too prescriptive in light of the already reduced timeline for implementing CAP(s). As such, the SDT decided to delete R7.1.4.	

See the unofficial comment form for additional information: https://www.nerc.com/pa/Stand/Project202107ExtremeColdWeatherDL/2021-07_Unofficial_Comment_Form_AB%20EOP-012-2_102723.docx

4. Do you agree that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority thereby providing the potential impacts a constraint declaration may have on the generating unit's performance to its Extreme Cold Weather Temperature? If you do not agree, or if you do agree but have an alternative approach that will more effectively address the concern, please provide your recommendation and, if appropriate, technical, or procedural justification.

Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	No
Document Name	
Comment	
The SRC disagrees with the proposed approach and believes that a more efficient and cost-effective approach would be for Requirement R8 to include an affirmative obligation for GOs to provide RCs, BAs, and TOPs with constraint declarations and the associated operating limitations whenever the constraint obligation is updated. This would ensure uniformity in the provision of Generator Cold Weather Constraint declarations across all RCs, BAs, and TOPs.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity.	
Natalie Johnson - Enel Green Power - 5	
Answer	No

Document Name	
Comment	
Enel supports the MRO NSRF comments and recommendations to Requirement R8.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	
The SDT has addressed the issue of providing reliability-related information to the BA in the case of a declaration being made. However, the SDT has also created a paperwork exercise by requiring an annual review of every declaration. The NAGF recommends the requirement be changed to a review at least every 5 years. While we recognize that things are changing quickly in some areas, it is unlikely that the technology and price of this type of equipment will change significantly over the course of a single year. The NAGF provides the following revised Requirement R8 language for consideration: **R8.** Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] **8.1.** Review the Generator Cold Weather Constraint declaration at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs; and **8.2.** Update the operating limitations associated with capability and availability per R1.2 if applicable.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Micah Runner - Black Hills Corporation - 1	
Answer	No
Document Name	
Comment	
Black Hills Corporation appreciates the SDT efforts, but suggests that 8.1 be changed to read “Update the Generator Cold Weather Constraints declaration within 12 months of a change occurring which requires an updated declaration to be made; and...”	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Rachel Schuldt - Rachel Schuldt On Behalf of: Claudine Bates, Black Hills Corporation, 5, 6, 1, 3; Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	No
Document Name	
Comment	

Black Hills Corporation appreciates the SDT efforts, but suggests that 8.1 be changed to read “Update the Generator Cold Weather Constraints declaration within 12 months of a change occurring which requires an updated declaration to be made; and...”	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	No
Document Name	
Comment	
Black Hills Corporation appreciates the SDT efforts, but suggests that 8.1 be changed to read "Update the Generator Cold Weather Constriants declaration within 12 months of a change occurring which requires an updated declaration to be made; and..."	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Robin Hill - EDP Renewables North America LLC - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	

EDP Renewables NA supports the comments submitted by the NAGF.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	No
Document Name	
Comment	
The Requirement R8 Part 8.2 requires that “Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: ……. 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.” There is no compliance obligation to communicate the identified Generating unit(s) operating limitations in cold weather related to the capability and availability, to the Balancing Authority, at the time of the initial declaration, nor at the time of the subsequent updates. The Reliability Coordinator awareness relies on IRO-010-4 Reliability Coordinator Data Specification and Collection "R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments” which has Part “1.4. A **periodicity** for providing data.” The same applies for Transmission Operator under TOP-003-5 — Operational Reliability Data, for which the necessary data also relies on periodicity for providing data (see R1 Part 1.4)	

Likes 0	
Dislikes 0	
Response	
Thank you for your response, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity.	
Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen	
Answer	No
Document Name	
Comment	
ISO-NE supports the SRC Comments:	
Likes 0	
Dislikes 0	
Response	
Thank you for your response, please see response to SRC.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	
The removal of R8 Part 8.3 (as contained in Draft 1) from this draft seems to "weaken" the drafting team's effort to address the FERC concern expressed in P 64 of the FERC order. The connection between the GO providing Generator Cold Weather Constraint declaration information to their BA is loosely tied through a meandering path of EOP-012-2 R8 Part 8.2 and R1 Part 1.2; and TOP-003-5 R2 Part 2.3, R4 and R5. There is also an opportunity for misinterpretation in that EOP-012-2 R1 has an "at least once every five calendar years" stipulation so a GO might	

not make a linkage between R8 Part 8.2 being an "update as needed" requirement versus only needing to update the data specified in R1 at least once every five calendar years. We understand that the drafting team may be limited in adding BA applicability to EOP-012-2 or bringing changes to TOP-003 into the project scope. Perhaps a footnote could be added for R1 Part 1.2 to help clarify the expectation that capability and availability data impacted by a Generator Cold Weather Constraint declaration shall be updated on an as declared basis.

We recommend the drafting team consider combining R8 with R7. The possibility of encountering and documenting/declaring a Generator Cold Weather Constraint is introduced in R7 Part 7.4. Requirement R8 then addresses follow-on activities associated with declaring a Generator Cold Weather Constraint. These could be added under Part 7.4 as follows eliminating the need for R8:

"*7.4. Document in a declaration, with justification, any Generator Cold Weather Constraint that precludes the Generator Owner from implementing actions contained within the Corrective Action Plan.* ***For each declaration:***

7.4.1. Perform an annual review and update the Generator Cold Weather Constraint declaration as needed; and

7.4.2 Update the operating limitations associated with capability and availability per Requirement R1 Part 1.2 if applicable."

Likes 0	
Dislikes 0	

Response

Thank you for your comment, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity. Additionally, the drafting team decided to keep R7 and R8 as separate requirements.

Junji Yamaguchi - Hydro-Quebec (HQ) - 5

Answer	No
Document Name	

Comment

We support OPG and Manitoba Hydro comments.

Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to OPG and Manitoba Hydro.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	No
Document Name	
Comment	
We support OPG and Manitoba Hydro comments.	
Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	
Response	
Thank you for your comment, please see response to OPG and Manitoba Hydro.	
Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	No
Document Name	
Comment	
We agree with some comments provided by ACES, EEI, MRO, NAGF, and Talen but are not going to restate each item specifically, as others have already restated them.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment, please see responses to those entities.	
C. A. Campbell - LS Power Development, LLC - 5	
Answer	No
Document Name	
Comment	
Structured, periodic winter-season data requests to declare operational constraints may not align with the timing of actual awareness or discovery of a 'constraint'. This would be a gap in reliability planning and resource adequacy for the region. This requirement, as written, doesn't allow for off-cycle notifications to the Entity's BA or TOP. Rather, consider language that requires the Entity to report the constraint within a certain timeframe (30 days, etc.) from the date of discovery. Another option would be to utilize CORES or Align to report 'living' operational data that the BA and TOP may have access to at any given time. The entity mapping tab in CORES could be used for access management control.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity.	
Michael Whitney - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
We agree with some comments provided by Avista and Talen but are not going to restate each item specifically.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comments, please see response to those entities.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
NO. We agree with some comments provided by Avista and Talen but are not going to restate each item specifically.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments, please see response to those entities.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
While Avista agrees that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, we recommend that the language be modified so that the Generator Owner is only required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, requiring an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard, the Generator Owner would be	

required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time. To address the concern, we offer the following suggested change in boldface: R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 8.1. **U**pdate the Generator Cold Weather Constraint declaration**. when a change occurs that would require an updated declaration be made**; and 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.

Likes 0	
Dislikes 0	

Response
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”

Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	

Comment
While we agree that Requirement R8 is sufficient to update the generating unit’s data specifications that are available to the Balancing Authority, we recommend that the language be modified so that the Generator Owner is only required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, requiring an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard, the Generator Owner would be

required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time. To address the concern, we offer the following suggested change in boldface: R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 8.1. **Update** the Generator Cold Weather Constraint declaration **when a change occurs that would require an updated declaration be made**; and 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	No
Document Name	
Comment	
PNM & TNMP support EEI’s recommended change to 8.1. "Update the Generator Cold Weather Constraint declaration when a change occurs that would require an updated declaration be made; and"	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	
Comment	
OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee’s comments. The Requirement R8 Part 8.2 requires that “Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: ……. 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.” There is no compliance obligation to communicate the identified Generating unit(s) operating limitations in cold weather related to the capability and availability, to the Balancing Authority, at the time of the initial declaration, nor at the time of the subsequent updates. The Reliability Coordinator awareness relies on IRO-010-4 Reliability Coordinator Data Specification and Collection "R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments” which has Part “1.4. A **periodicity** for providing data.” The same applies for Transmission Operator under TOP-003-5 — Operational Reliability Data, for which the necessary data also relies on periodicity for providing data (see R1 Part 1.4).	
Likes 1	Hydro-Quebec (HQ), 1, Turcotte Nicolas
Dislikes 0	
Response	
Thank you for your response, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity	
Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO	

Answer	No
Document Name	
Comment	
If the GO creates a cold weather constraint it should be communicated via an agreed upon method with the system planning and operating authority. Cold weather constraints are only one of a variety of reasons why a unit capability maybe limited. These constraints/restrictions should/can be communicated upon an already approved method.	
Likes 0	
Dislikes 0	
Response	
Thank you for your response, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	No
Document Name	
Comment	
Suggest changing requirement as stated below: R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning 8.1. Preform a “five-year” review and update the Generator Cold Weather Constraint declaration as needed; and 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
The minimum temperature value from R1.2.2 of EOP-012-2 is formally accepted in M3 of the standard as proof of ECWT capability, so this issue is neatly wrapped up from a compliance point of view. As a practical matter, however, the fact that NERC is looking solely for a DBT value can create uncertainty, potentially badly misleading RCs, BAs and TOPs obtaining this information via IRO-010 and TOP-003. A unit that has survived -5 F with zero wind and has an ECWT of -2 F, for example, may freeze-up at 0 F with a 20 mph wind (-22 F wind chill temperature). Using design data instead of historical operation for R1.2.2 does not necessarily improve matters. Our experience is that a heat tracing/insulation system designed per IEEE-515 for, say, -2 F/20 mph will typically get the job done at -2 F/0 mph, but the unit is likely to freeze at -2 F/10 mph, and it will definitely be forced offline at -2 F/20 mph. The emphasis on an ECWT also seems misplaced due to the fact that disasters such as Winter Storm Uri involved weather far below this temperature. The Technical Rationale document says that grid operators can then, “arrange for additional resources,” but power from elsewhere is unlikely to be available if decades worth of new power plants have been influenced by EOP-012-2 continent-wide to cut-out at or near the ECWT.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment. While the SDT understand that the information you provided above is accurate, as a matter of administrative burden the requirement cannot require the GO to provide every potential extreme cold weather scenario that may occur and attempts to forecast how the unit may perform under those sceneries. The SDT maintains that changes to TOP-002 should help address this issue.	
Robert Follini - Avista - Avista Corporation - 3	
Answer	No
Document Name	
Comment	
While Avista agrees that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, we recommend that the language be modified so that the Generator Owner is only required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, requiring an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard, the Generator Owner would be required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time. To address the concern, we offer the following suggested change in boldface: R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 8.1. (***Preform an annual review and - remove)*** **U**pdate the Generator Cold Weather Constraint declaration (***as needed*****. - remove) when a change occurs that would require an updated declaration be made**; and 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with "at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs."	

Ruchi Shah - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	
While AES Clean Energy agrees R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, we would recommend that the language be modified so that the Generator Owner only be required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, an annual review is just an administrative burden that provides no reliability benefit.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with "at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs."	
Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
While NV Energy agrees the R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, NV Energy would recommend that the language be modified so that the Generator Owner only be required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard; the Generator Owner would be required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time.	

R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall:

[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

8.1. *Preform an annual review and* **Update the Generator Cold Weather Constraint**

declaration *as needed* ***when a change to the declaration is made***; and

8.2. Update the operating limitations associated with capability and availability per

R1.2 if applicable.

Likes 0	
Dislikes 0	

Response

Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”

David Jendras Sr - Ameren - Ameren Services - 3

Answer	Yes
Document Name	

Comment

Ameren supports NAGF's comments on this project.

Likes 0	
Dislikes 0	

Response

Thank you for your comment, please see response to NAGF.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
While EEI agrees that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, we recommend that the language be modified so that the Generator Owner is only required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, requiring an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard, the Generator Owner would be required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time. To address the concern, we offer the following suggested change in boldface: R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 8.1. **U**pdate the Generator Cold Weather Constraint declaration **when a change occurs that would require an updated declaration be made**; and 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with "at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs."	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes

Document Name	
Comment	
The current NERC standards TOP-003 ad IRO-101 provide adequate capability for BA, TOP, and RCs to request and receive the information they need.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Andrew Smith - APS - Arizona Public Service Co. - 5	
Answer	Yes
Document Name	
Comment	
AZPS agrees that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority. AZPS also agrees with comments submitted by EEI that the language should be modified so that a GO is only required to update a Generator Cold Weather Constraint declaration when a change occurs as an annual review just creates an administrative burden that provides no reliability benefit. AZPS agrees with EEI submitted alternative language to address this concern.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with "at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs."	

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike	
Answer	Yes
Document Name	
Comment	
Tacoma Power supports the MRO NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to MRO NSRF.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	Yes
Document Name	
Comment	
PG&E agrees the R8 language is sufficient to update the generating unit's data specifications.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Alison MacKellar - Constellation - 5	

Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Kimberly Turco on behalf of constellation segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Kinte Whitehead - Exelon - 3	
Answer	Yes
Document Name	
Comment	
Exelon is supporting EEI response to this question.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dane Rogers - Dane Rogers On Behalf of: Donald Hargrove, OGE Energy - Oklahoma Gas and Electric Co., 3, 1, 5, 6; - Dane Rogers, Group Name OG&E	
Answer	Yes

Document Name	
Comment	
OG&E supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
WEC Energy Group supports the comments submitted by the Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	

FirstEnergy supports EEI's comments which state:

While EEI agrees that Requirement R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, we recommend that the language be modified so that the Generator Owner is only required to update a Generator Cold Weather Constraint declaration when a change occurs. As currently written, requiring an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard, the Generator Owner would be required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time. To address the concern, we offer the following :

R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

8.1. **U**pdate the Generator Cold Weather Constraint declaration as needed. when a change occurs that would require an updated declaration be made; and

8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.

Likes 0	
Dislikes 0	

Response

Thank you for your comment, R8.1 has been updated with "at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs."

Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group

Answer	Yes
Document Name	

Comment

While MRO NSRF agrees the R8 is sufficient to update the generating unit's data specifications that are available to the Balancing Authority, MRO NSRF would recommend that the language be modified so that the Generator Owner only be required to update a Generator Cold

Weather Constraint declaration when a change occurs. As currently written, an annual review is just an administrative burden that provides no reliability benefit. As the Generator Cold Weather Constraint is defined in this proposed standard, the Generator Owner would be required to ensure that Generator Cold Weather Constraint as claimed is appropriate at any given time.   R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning] 8.1. Update the Generator Cold Weather Constraint declaration as needed ***when a change to the declaration is made***; and 8.2. Update the operating limitations associated with capability and availability per R1.2 if applicable.

Likes 0	
Dislikes 0	
Response	
Thank you for your comment, R8.1 has been updated with “at least every five years or as needed when a change of status to the Generator Cold Weather Constraint occurs.”	
Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rhonda Jones - Invenergy LLC - 5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Laura Hankins - Laura Hankins On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - Laura Hankins	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Helen Lainis - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Thank you for your support.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Richard Vendetti - NextEra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Brittany Millard - Lincoln Electric System - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jeffrey Streifling - NB Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ben Hammer - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	

Answer	
Document Name	
Comment	

Texas RE does not agree with removing Requirement Part 8.3. The Generator Owner (GO) should be required to provide its declaration to the Balancing Authority, Reliability Coordinator, or Transmission Operator, along with justification for that declaration. Texas RE is concerned that without an explicit requirement, the GO's constraint declarations may not be communicated to the Reliability Coordinator, Balancing Authority or Transmission Operator that are expecting reliable operation of the units. The Time Horizons for IRO-010 and TOP-003 data submissions do not match with EOP-012-2 applicable Time Horizon. Therefore, Texas RE recommends SDT consider including reporting the operating limitations of the generating units during extreme cold weather conditions to the BA/RC and retaining the previous 8.3 language in the standard for this annual one-time submission with additional schedule requirement for audit purposes. Texas RE recommends the following requirement language:

8.3. Provide the Generator Cold Weather Constraint declaration to the Balancing Authority, Reliability Coordinator, or Transmission Operator within 90 days of completing the annual review and update as well as justification for that declaration.

Likes 0	
Dislikes 0	
Response	

Thank you for your response. The SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Entity Monitoring

Answer	
Document Name	
Comment	

FERC did mention the possibility of a Reliability Coordinator being a planning and operational entity. Unfortunately, FERC did not include Transmission Operators explicitly, but the language in E0P-012 was utilized in IRO-010 and TOP-003 for RCs, BAs, TOPs and GOs all to have the same language. This makes the language provided by the SDT reasonable in terms of updating information to be utilized by the RC/BA/TOP but falls short of notifying the entities regarding a declaration. It will not be clear whether a generator units' capability and availability was the cause of cold weather protection measures needing correction or other factors that may change the unit's capability and availability. Putting the onus on the RCs/BAs/TOPs to call out specifics on capability and availability due to cold weather constraint declaration may result in differences in implementation and expectations across the industry. As important constraint declarations are for ensuring reliable operations, the notifications should be made explicitly so that planning and operating entities have a clear understanding of the CAPs impact to capability and availability.

When compliance monitoring begins, as written, an entity will need to demonstrate when CAP-related changes occurred related to R1 information. An entity's internal control(s) regarding provision of data and awareness for planning and operating entities may be explored.

SDT should consider a sub-requirement requiring notification to include the BA, RC, TOP, and GOP for declaration. This may be considered somewhat administrative in nature but provision of data through the method selected between entities (e.g., often SCADA) may not equate to notification of a change due to the facts and circumstances (especially those that support a declaration).

Additionally, to satisfy FERCs apparent need to know about declarations, the SDT (or NERC) should consider a Periodic Data Submittal for declarations to maintain awareness.

Likes 0	
Dislikes 0	

Response

Thank you for your response, the SDT team has discussed in depth requiring the GOs to provide the RC, BA, and TOP updated constraint declarations as a part of this standard. The SDT feels standards IRO-10-2 and TOP-3-5 are sufficient, as written, to require the GOs to provide updated operating limitations to the RC, BA, and TOP on a predetermined periodicity.

See the unofficial comment form for additional information: https://www.nerc.com/pa/Stand/Project202107ExtremeColdWeatherDL/2021-07_Unofficial_Comment_Form_AB%20EOP-012-2_102723.do **5. Per the FERC directive to shorten the timeframe to implement freeze protection measures on existing units, the SDT proposes an implementation plan where all requirements of EOP-012-2 go into effect on the effective date of the standard except Requirement R3 which has a 12-month implementation time frame. The chart below is included to compare the EOP-012-1 and EOP-012-2 IPs for this requirement which requires GOs to have the capability to operate at the ECWT or a CAP written by the effective date of the requirement. Do you agree with this proposed timeframe? If you think an alternate timeframe is needed, please propose an alternate implementation plan and time period, and provide a detailed explanation of actions planned to meet the implementation deadline.**

Ben Hammer - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
WAPA does not agree with the new dates and recommends remaining with EOP-012-1 original dates.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.	

Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	

A schedule is needed for implementation of presently Non-GUP winter reliability technologies that become viable at some future time. There may come a day when wind turbine blade anti-icing becomes a proven alternative, for example, and wind farms owners will then need an extensive period for installing retrofits.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In Requirement R7 Part 7.1 the SDT has established appropriate timeline requirements for completing actions required by Corrective Action Plans. Requirement R7 Part 7.3 allows for updating the CAP, with justification, if corrective action(s) change or timetable(s) exceed the timelines in Requirement R7 Part 7.1. The SDT believes that no adjustment of the R7 timelines or the Standard's Implementation Plan is required.	
Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	
Reclamation does not agree with the new dates and recommends remaining with EOP-012-1 original dates.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	

Comment
OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee's comments. FERC directed NERC to address concerns relating to the extensive period before generators must implement freeze protection measures or develop corrective action plans. This is not equivalent with the GOs having the capability to operate at the ECWT or a CAP written by the effective date of the requirement. The major and necessary decrease in reliability risk is achieved through the mere implementation of freeze protection measures, which will eliminate the simultaneity of the generator cold weather events. Appropriate planning should ensure adequate reserve is available to replace the generating units subject to a cold weather event.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. The SDT agrees that implementation of freeze protection measures should reduce the simultaneity of Generator Cold Weather Reliability Events.

Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	

Comment
NO. It should not be implemented as currently drafted and until a cost vs reliability benefit analysis is provided.

Likes 0	
Dislikes 0	

Response

Thank you for your comment. Please see the revised language for Generator Cold Weather Constraint definition as a reference for when cost can be used as a constraint.	
Michael Whitney – Northern California Power Agency – 3,4,5,6	
Answer	No
Document Name	
Comment	
It should not be implemented as currently drafted and until a cost vs reliability benefit analysis is provided.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the revised language for Generator Cold Weather Constraint definition as a reference for when cost can be used as a constraint.	
C. A. Campbell - LS Power Development, LLC - 5	
Answer	No
Document Name	
Comment	
We do not agree with the shortened time frame to identify and document a CAP. This process requires an engineering analysis to first identify all GCWCCs and then assess them for sufficient weatherization measures. Not only does this take time to complete, it poses a challenge to identify and schedule a qualified vendor for GOs with multiple plants in their fleet. Thanks to this standard, vendors with this specialized expertise are now competitively sought after. Reducing the clock not only increases the challenge, but also the market price of the service, making this shortened time frame unduly burdensome. We support the original 4/1/2028 date.	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.	
Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	No
Document Name	
Comment	
It should not be implemented as currently drafted and until a cost vs reliability benefit analysis is provided.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the revised language for Generator Cold Weather Constraint definition as a reference for when cost can be used as a constraint.	
Richard Vendetti – NextEra Energy – 5	
Answer	No
Document Name	
Comment	
Too restrictive. We need to check for feasibility. What alternatives exist if CAP cannot be put in place due to design limitations? Need to have the ability to file a declaration if the existing equipment cannot be modified to run below ECWT or to run during an icing event. With the equipment that already exists there are situations where ECWT is literally 2 degrees lower than design temperature and there is either nothing that can be done or cost prohibitive to the business.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the revised language for Generator Cold Weather Constraint definition as a reference for when a constraint can be taken.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	No
Document Name	
Comment	
We support OPG comments.	
Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	
Response	
Thank you for your comment, please see response to OPG.	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	No
Document Name	
Comment	
We support OPG comments.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment, please see response to OPG.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	No
Document Name	
Comment	
PG&E disagrees with the proposed timeframe. PG&E recommends an extended period such as 2 years from the approval date to implement R5 which allows PG&E time to establish the "annual" training periodicity.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	No
Document Name	
Comment	
Minnesota Power supports the North American Generator Forum's (NAGF) comments.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment, please see the SDT's response to NAGF.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	No
Document Name	
Comment	
Requirement 3 addresses operating requirements for existing units and units that commission prior to October 1, 2027. There is currently no limitation on the time a unit must operate at its calculated extreme cold weather temperature. The previous draft as well as the exiting, approved version of EOP-012 contains a one (1) hour operating limitation for existing units at the extreme cold weather temperature that no appears to have been eliminated from the proposed version. Dominion Energy recommends that this 1-hour operating requirement be reinstated in the Standard rather than the current unbounded operating requirements for existing units.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Item 8 of the 3/25/2023 FERC Order directed "NERC to modify the one-hour continuous operation requirement". The SDT chose to not select a specific number of hours that the lesser requirement for existing units must be met.	
Ruida Shu – Northeast Power Coordinating Council – 1,2,3,4,5,6,7,8,9,10 – NPCC, Group Name NPCC RSC	
Answer	No
Document Name	
Comment	
FERC directed NERC to address concerns relating to the extensive period before generators must implement freeze protection measures or develop corrective action plans. This is not equivalent with the Gos having the capability to operate at the ECWT or a CAP written by the effective date of the requirement.	

The major and necessary decrease in reliability risk is achieved through the mere implementation of freeze protection measures, which will eliminate the simultaneity of the generator cold weather events. Appropriate planning should ensure adequate reserve is available to replace the generating units subject to a cold weather event.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT agrees that implementation of freeze protection measures should reduce the simultaneity of Generator Cold weather Reliability Events.	
Robin Hill - EDP Renewables North America LLC - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	
EDP Renewables NA supports the comments submitted by the NAGF.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see the SDT's response to NAGF.	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	No
Document Name	
Comment	

Black Hills Corporation does not agree with the new dates and recommends the dates remain the same as original dates in EOP-012-1.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.	
Rachel Schuldt - Rachel Schuldt On Behalf of: Claudine Bates, Black Hills Corporation, 5, 6, 1, 3; Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	No
Document Name	
Comment	
Black Hills Corporation does not agree with the new dates and recommends the dates remain the same as original dates in EOP-012-1.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.	
Micah Runner - Black Hills Corporation - 1	
Answer	No
Document Name	
Comment	

Black Hills Corporation does not agree with the new dates and recommends the dates remain the same as original dates in EOP-012-1.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	
The NAGF continues to have concerns that the hard limit of 24 months for existing equipment and 48 months for new equipment to address cold weather will cause entities to create a work of fiction for CAPs that must address a large number of units. As an example, there may come a day when wind turbine anti-icing becomes a proven alternative, and wind farm owners will then need an extensive period for installing retrofits. If a large number of wind turbine owners are looking to implement this technology at one time, there will be issues with outage scheduling, procurement of the parts, procurement of the labor and equipment to install the parts, etc. We note that multiple Balancing Authorities currently tout the amount of wind generation supporting their load service. Just scheduling of outages for the purpose of addressing cold weather effort may take a significant time when layered on top of preventative and forced maintenance. For this reason, the limited time period for the CAPs will cause the creation of a CAP to meet the requirement that is not based in reality. This should not be the intent of any regulation. The NAGF has proposed a reasonable alternative that still incorporates a limitation on the time allowed while addressing the fact that there are limited resources and maintenance periods for generators to utilize for outages. The implementation plan for the overall standard appears reasonable based on what is needed to be completed at a specific time.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment. In Requirement R7 Part 7.1 the SDT has established appropriate timeline requirements for completing actions required by Corrective Action Plans. Requirement R7 Part 7.3 allows for updating the CAP, with justification, if corrective action(s) change or timetable(s) exceed the timelines in Requirement R7 Part 7.1. The SDT believes that no adjustment of the R7 timelines or the Standard's Implementation Plan is required.	
David Jendras Sr - Ameren - Ameren Services - 3	
Answer	No
Document Name	
Comment	
Ameren supports NAGF's comments on this project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see the SDT's response to NAGF.	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
BC Hydro's assessment is that a 24-month implementation timeline would be needed to analyze the additional precipitation inclusions, determine all required freeze protections, create PM programs, setup processes to track CAPs and schedule necessary outages for CAPs implementation and completion for all units in scope while also observing environmental constraints, such as birds nesting and fish flows.	
Likes 0	

Dislikes 0	

Response
Thank you for your comment. The SDT discussed changing implementation dates and chose not to do this as the majority of the industry supported the current dates.

Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	No
Document Name	

Comment
The SRC recommends that the drafting team further clarify the language regarding CAPs in Requirement R7. As proposed, R7 does not appear to include sufficient focus on CAP implementation. Additionally, the SRC reads Part 7.1.1 to require a GO to "[l]ist the action(s) which address(es) existing equipment or freeze protection measures" and to implement those within 24 calendar months, while Part 7.1.2 requires a GO to "[l]ist the action(s) which require(s) new equipment or freeze protection measures" and implement those within 48 calendar months. However, because some corrective actions may address existing equipment and also require new measures, these categories are not necessarily mutually exclusive, and an ambiguity could therefore arise regarding the appropriate timeline that would apply in such a case. The SRC presumes that the CAP implementation timeline should depend on whether new equipment is required to be installed, and not on whether the CAP "addresses" existing equipment or measures. Regarding the timeline, new "measures" that don't require new equipment would not seem to require more than a year to complete, while new equipment should not require more than two years in the vast majority of cases. Therefore, the proposed 24- and 48-month timelines seem excessive. The SRC suggests the following revised language for R7, Parts 7.1 and 7.2: **R7.** Each Generator Owner, for each Corrective Action Plan developed pursuant to Requirements R1, R3, or R6, shall: *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]* **7.1.** Include a timetable for implementing the selected corrective action(s) that shall:

7.1.1 **(new subpart**) Subject to inclusion of documentation supporting declaration of a Generator Cold Weather Constraint, document the generator's best efforts to promptly implement all immediate and near term actions that it can take prior to the next upcoming winter season to winterize the generating unit(s) to operate at its calculated Extreme Cold Weather Temperature;

7.1.2 (in place of 7.1.1) Specify each corrective action that does not require the installation of new equipment but which cannot be implemented prior to the next upcoming winter season. Subject to inclusion of documentation supporting declaration of a Generator Cold Weather Constraint, such actions must be completed within 12 months of development of the Corrective Action Plan;

7.1.3. (in place of 7.1.2) Specify each corrective action that requires the installation of new equipment. Subject to inclusion of documentation supporting declaration of a Generator Cold Weather Constraint, such actions must be completed within 24 months of development of the Corrective Action Plan;

7.1.4. (was R7.1.3) List the updates to the cold weather preparedness plan required under Requirement R4 to identify the updates or additions to the Generator Cold Weather Critical Components and their freeze protection measures; and

7.1.5. (was R7.1.4) For one or more Corrective Action Plan(s) that address multiple units in a fleet, the Corrective Action Plan shall stagger implementation across those generating units and include within the CAP supporting documentation for the time needed to implement those actions and justification of the staggering approach adopted.

Likes 0	
Dislikes 0	
Response	

Thank you for your comment. The SDT believes that GOs can use appropriate judgement to describe corrective actions that either affect existing or require new equipment and apply the appropriate timeline. The SDT discussed changing implementation timelines and chose not to do this as the majority of the industry supported the current 24- and 48-month periods within R7. Please see the technical rationale for the justification for 24 and 48 months	
Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Robert Follini - Avista - Avista Corporation - 3	
Answer	Yes
Document Name	
Comment	
Avista can comply within this timeframe.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	

Answer	Yes
Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group	
Answer	Yes
Document Name	
Comment	
The MRO NSRF agrees the shortened timeframe is adequate.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	

FirstEnergy has no objections to the Implementation Plan presented.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	Yes
Document Name	
Comment	
PNM & TNMP supports the EOP-012-2 IP timeframe as proposed.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	Yes
Document Name	
Comment	
We can comply with this timeframe.	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
Dane Rogers - Dane Rogers On Behalf of: Donald Hargrove, OGE Energy - Oklahoma Gas and Electric Co., 3, 1, 5, 6; - Dane Rogers, Group Name OG&E	
Answer	Yes
Document Name	
Comment	
OG&E supports comments submitted by EEI.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the comments submitted by the EEI.	
Likes 0	
Dislikes 0	
Response	

Thank you for your support.	
Kinte Whitehead - Exelon - 3	
Answer	Yes
Document Name	
Comment	
Exelon is supporting EEI response to this question.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Kimberly Turco on behalf of constellation segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Andrew Smith - APS - Arizona Public Service Co. - 5	
Answer	Yes
Document Name	
Comment	
AZPS does not oppose this change.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes

Document Name	
Comment	
The proposed timeframe balances the need for a rapid implementation and the capability of GOs to plan, schedule, and implement additional freeze protection requirements.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ruchi Shah - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	
While AES Clean Energy agrees with the proposed timeline, we want to bring NERC and Standard Drafting Team's attention concerning unintended consequences of this timeline. For example, when wind turbine blade de-icing technology becomes commercially available, many windfarm Generator Owners will be reaching out to OEMs or vendors to order the kits and schedule with contractors to install. This will lead to outage scheduling issues, supply chain issues, as well as procuring labor for the installation work. This could also result in reliability issues if certain BA's footprint has large amount of wind generation taken offline for extended period of time for the work to be performed.	
Likes 0	
Dislikes 0	
Response	

Thank you for your support. Requirement R7 Part 7.3 allows for updating the CAP, with justification, if corrective action(s) change or timetable(s) exceed the timelines in Requirement R7 Part 7.1. The SDT believes appropriate CAP extensions can be made should circumstances such as those described above occur, and that therefore, no adjustment of the R7 timelines or the Standard's Implementation Plan is required.	
Natalie Johnson - Enel Green Power - 5	
Answer	Yes
Document Name	
Comment	
No comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jeffrey Streifling - NB Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Brittany Millard - Lincoln Electric System - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Helen Lainis - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Thank you for your support.	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Ryder Couch, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Wei Shao, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD and BANC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Laura Hankins - Laura Hankins On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - Laura Hankins	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rhonda Jones - Invenergy LLC - 5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen	
Answer	
Document Name	
Comment	
No Additional Comments	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	

See the unofficial comment form for additional information: https://www.nerc.com/pa/Stand/Project202107ExtremeColdWeatherDL/2021-07_Unofficial_Comment_Form_AB%20EOP-012-2_102723.docx **6. The SDT proposes that the modifications in EOP-012-2 meet the key recommendations in The Report as well as the directives in the FERC order in a cost-effective manner. Do you agree? If you do not agree, or if you agree but have suggestions for improvement to enable more cost-effective approaches, please provide your recommendation and, if appropriate, technical, or procedural justification.**	
Natalie Johnson - Enel Green Power - 5	
Answer	No
Document Name	
Comment	
It is difficult for the industry to determine the full cost implications of EOP-012-2. Particularly with the development of Corrective Action Plans as a result of extreme weather, it is premature, to determine at this time, the cost implications until it is fully known what is actually involved.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	No
Document Name	
Comment	

Invenergy believes the SDT improved upon the previous draft, but, absent a comprehensive cost-benefit analysis, is not in a position to comment on the cost-effectiveness of the modifications in EOP-012-2.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Rhonda Jones - Invenergy LLC - 5,6	
Answer	No
Document Name	
Comment	
Suggestions: • Run Models/Simulations evidencing the key recommendations are achievable • Publish Cost Recovery Impact Reports and share with Registered Entities • Perform a comprehensive cost benefit analysis	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT was seeking information from entities from their unique perspective on the cost effectiveness of the standards.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	No

Document Name	
Comment	

We do not believe that either following changes are a cost-effective solution:

- The inclusion of "impacts of freezing precipitation on equipment" in the definition of "Generator Cold Weather Reliability Event"
  - By including the impacts of freezing precipitation on equipment, the proposed revision could potentially cause the industry to adopt an iterative approach to compliance. Furthermore, modifying the definition in such a manner could cause the GO to be at risk of non-compliance with Requirement R6 even when fully compliant with R2 or R3 as applicable.
    - As written, Requirements R2 and R3 require the GO to implement freeze protection measures based on the Extreme Cold Weather Temperature; however, the GO is not required to address the impacts of freezing precipitation on equipment under either Requirement.
- The modification to Requirement R4 Part 4.4 changing "may include" to "includes"
  - This seemingly minor change has enormous compliance consequences for the GO.
    - By requiring the GO to document freeze protection measures used to reduce the cooling effects of wind and the effects of freezing precipitation, the proposed change will force the GO to evaluate and possibly implement such measures. This is further exacerbated by the fact that Requirements R2 and R3 only require the GO to implement freeze protection measures based on temperature alone.
      - We believe such an evaluation and subsequent implementation is cost prohibitive and an undue compliance burden for the GO.
    - We recommend reverting to the previous language for Requirement R4 Part 4.4.

Likes 0	
Dislikes 0	

Response

Thank you for your comment. The standard does account for the impacts of freezing precipitation and cooling effects of wind to meet the objectives of Key Recommendations. Additionally, the SDT has determined that GOs have the responsibility to determine which freeze protection measures are needed to account for the impacts of freezing precipitation and cooling effects of wind. The standard does not set a specific bar for existing generating units and as such, GOs should use their past experience and good utility practice to determine what freeze protection measures are required to operate to their extreme cold weather temperature reliably.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	No
Document Name	
Comment	

We do not agree with the way this standard draft is being developed.

We consider these key recommendations implementations to be non-cost effective.

The purpose of EOP-012 standard is: “To address the effects of operating in extreme cold weather by ensuring each Generator Owner has developed and implemented plan(s) to mitigate the reliability impacts of extreme cold weather on its applicable generating units.”

There is no reliability gap for the Canadian Entities, as these entities are successfully operating in a Cold Climate through the associated extremes, with the aid of their current operating instructions, procedures, training, and specific station design.

The concern for the GO/GOP with less than adequate winterization plan in place (i.e., Texas, SPP) is not applicable to Canadian entities.

In those regions where the GO/GOP do not have winterization implemented, there is always the potential for concurrent cold weather events (outages due to freezing), when temp drops below freezing point and all the GO/GOP are affected at the same time, triggering cascading events.

This is not the case for the Canadian entities, and for that reason there should be an **exception in the applicable Facilities, to exclude the Canadian GO/GOP facilities**, as a cost-effective approach, without the undue compliance burden, towards the reliable operation of these facilities.

Likes 0	
Dislikes 0	
Response	

Thank you for your comment. The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet

or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.	
Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen	
Answer	No
Document Name	
Comment	
ISO-NE supports the SRC Comments: The ECWT is calculated to a temperature higher than actual minimum experienced. The Standard as written may not prevent the freezing of generating equipment during a recurrence of Winter Storm Uri even if all entities are EOP-012-2 compliant. At a minimum the ECWT, should be calculated to include those temperatures that were an initial driving force for the development of the EOP-012 Standard.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The current calculation for ECWT has been approved by industry and FERC.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	

We remain concerned that EOP-012-2 being applicable to nuclear generation sites is not cost effective. As we commented on Draft 1, the nuclear power industry is used to working under NRC regulation and INPO guidance in this area, and adding another layer of NERC requirements (potentially overlapping) adds an extra burden to the site staffs and confusion on what actions are necessary and required.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT maintains that the cold weather report identified that nuclear generation experienced freezing issues during the event and did not suggest that nuclear generation should be excluded from these standards.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	No
Document Name	
Comment	
AEPC signed on to ACES comments: We do not believe that either following changes are a cost-effective solution: • The inclusion of “impacts of freezing precipitation on equipment” in the definition of “Generator Cold Weather Reliability Event” o By including the impacts of freezing precipitation on equipment, the proposed revision could potentially cause the industry to adopt an iterative approach to compliance. Furthermore, modifying the definition in such a manner could cause the GO to be at risk of non-compliance with Requirement R6 even when fully compliant with R2 or R3 as applicable. ▪ As written, Requirements R2 and R3 require the GO to implement	

freeze protection measures based on the Extreme Cold Weathe Temperature; however, the GO is not required to address the impacts of freezing precipitation on equipment under either Requirement. • The modification to Requirement R4 Part 4.4 changing “may include” to “includes” o This seemingly minor change has enormous compliance consequences fo the GO. ▪ By requiring the GO to document freeze protection measures used to reduce the cooling effects of wind and the effects of freezing precipitation, the proposed change will force the GO to evaluate and possibly implement such measures. This is further exacerbated by the fact that Requirements R2 and R3 only require the GO to implement freeze protection measures based on temperature alone. • We believe such an evaluation and subsequent implementation is cost prohibitive and an undue compliance burden for the GO. ▪ We recommend reverting to the previous language for Requirement R4 Part 4.4.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment. The standard does account for the impacts of freezing precipitation and cooling effects of wind to meet the objectives of Key Recommendations. Additionally, the SDT has determined that GOs have the responsibility to determine which freeze protection measures are needed to account for the impacts of freezing precipitation and cooling effects of wind. The standard does not set a specific bar for existing generating units and as such, GOs should use their past experience and good utility practice to determine what freeze protection measures are required to operate to their extreme cold weather temperature reliably.	
Junji Yamaguchi - Hydro-Quebec (HQ) - 5	
Answer	No
Document Name	
Comment	
We support OPG and Manitoba Hydro comments	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments, please see response to OPG and Manitoba Hydro.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	No
Document Name	
Comment	
We support OPG and Manitoba Hydro comments.	
Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	
Response	

Thank you for your comments, please see response to OPG and Manitoba Hydro.	
Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	No
Document Name	
Comment	
The SDT has not stated a cost estimate nor tangible reliability indices improvements said modifications are projected to provide. No standard should be allowed if a cost/benefit analysis is not provided by the SDT. SDT frequently asks this question but never provides a cost/benefit justification. SDTs and others, usually simply someone says there is a reliability gap, or a risk, but does not provide estimated, tangible, reliability indices improvement numbers or a cost estimate to fill the alleged gap or risk. This proposal appears to be another costly administrative process with no continent wide tangible reliability benefit.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT was seeking information from entities from their unique perspective on the cost effectiveness of the standards.	
C. A. Campbell - LS Power Development, LLC - 5	
Answer	No
Document Name	
Comment	
We do not believe the modifications take the cost burden into account. The technical rationale is very light when attempting to support Requirement R1 and its sub-parts. There is little value requiring at-design unit data for existing facilities, especially if they have been in operation for several years. Spending resources to ascertain design parameters pulls focus and resources away from completing CAPs with no value added. Additionally, there are a lot of market overtones to the FERC directives. We agree that the line will always be blurred when it comes to reliability and resource adequacy, however it should not present a financial burden through required upgrades (within challenging	

timelines) to doubly ensure continuous operations at times of peak demand. These costs are ultimately passed down to the rate payer in many cases, meaning that cost burdens of the plant owner would impact the end user. This scenario creates an inability to pay for the same electricity all these measures are meant to preserve, making the reliability aspect moot at times of critical need.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT has included a broad cross section of industry members to ensure that standards are reasonable and take into account multiple viewpoints.	
Michael Whitney - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
The SDT has not stated a cost estimate nor tangible reliability indices improvements said modifications are projected to provide. No standard should be allowed if a cost/benefit analysis is not provided by the SDT. SDT frequently asks this question but never provides a cost/benefit justification. SDTs and others, usually simply someone says there is a reliability gap, or a risk, but does not provide estimated, tangible, reliability indices improvement numbers or a cost estimate to fill the alleged gap or risk. This proposal appears to be another costly administrative process with no continent wide tangible reliability benefit.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT was seeking information from entities from their unique perspective on the cost effectiveness of the standards.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No

Document Name	
Comment	
NO. The SDT has not stated a cost estimate nor tangible reliability indices improvements said modifications are projected to provide. No standard should be allowed if a cost/benefit analysis is not provided by the SDT. SDT frequently asks this question but never provides a cost/benefit justification. SDTs and others, usually simply someone says there is a reliability gap, or a risk, but does not provide estimated, tangible, reliability indices improvement numbers or a cost estimate to fill the alleged gap or risk. This proposal appears to be another costly administrative process with no continent wide tangible reliability benefit.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT was seeking information from entities from their unique perspective on the cost effectiveness of the standards.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
This standard is really directed towards thermal generating units that utilize steam or water in their process. It would be much more cost effective for the industry and Avista if the SDT and FERC were to determine the resources most at risk for cold weather compliance restrictions and focus this reliability guidance on those units. For instance hydro facilities have near zero cold weather events, as do simple cycle combustion turbines. Our experience with following the guidance for developing cold weather compliance plans, training, interviewing our folks and determining ECWT for each hydro and simple cycle facility has resulted in very minor changes to the procedures, practices and equipment at these facilities. We feel that the risk to these facilities during extreme cold weather events is very low. It would be most economic for the industry and Avista if the SDT and FERC were to verify the most at risk resources and limit the boundaries of this standard to cover only the at risk generating resource types.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The cold weather report identified that multiple types of generation experienced freezing issues during the event and did not suggest that only specific resource types be targeted by this standard. The drafting team recognizes that different resource types face different risks, and the standard is intended to accommodate all resource types.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	No
Document Name	
Comment	
NRG believes that this version is an improvement to the previous version of this draft. However, without any measures towards cost recovery for those entities requiring additional cold weather protection, by default, this remains as not being cost effective.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
This standard is really directed towards thermal generating units that utilize steam or water in their process. It would be much more cost effective for the industry and Avista if the SDT and FERC were to determine the resources most at risk for cold weather compliance restrictions and focus this reliability guidance on those units. For instance hydro facilities have near zero cold weather events, as do simple	

cycle combustion turbines. Our experience with following the guidance for developing cold weather compliance plans, training, interviewing our folks and determining ECWT for each hydro and simple cycle facility has resulted in very minor changes to the procedures, practices and equipment at these facilities. We feel that the risk to these facilities during extreme cold weather events is very low. It would be most economic for the industry and Avista if the SDT and FERC were to verify the most at risk resources and limit the boundaries of this standard to cover only the at risk generating resource types.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The cold weather report identified that multiple types of generation experienced freezing issues during the event and did not suggest that only specific resource types be targeted by this standard. The drafting team recognizes that different resource types face different risks, and the standard is intended to accommodate all resource types.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	No
Document Name	
Comment	
NRG believes that this version is an improvement to the previous version of this draft. However, without any measures towards cost recovery for those entities requiring additional cold weather protection, by default, this remains as not cost effective.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	No

Document Name	
Comment	
PNM & TNMP have concern with winterization of cold weather critical components affecting the reliability of summer operations during high temperature conditions. The cost is to be determined being cost effective for both winter and summer conditions.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT understands this concern and believes that the standard is written in a way to allow temporary freeze protection measures to be installed for the winter season which will not impact summer capability. In addition, the GOs have an ability to take a declaration if freeze protection measures would overly impact operation outside of winter conditions.	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	No
Document Name	
Comment	
OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee's comments. We do not agree with the manner in which this standard draft is being developed. We consider these key recommendations implementations to be non-cost effective. The purpose of EOP-012 standard is: "To address the effects of operating in extreme cold weather by ensuring each Generator Owner has developed and implemented plan(s) to mitigate the reliability impacts of extreme cold weather on its applicable generating units." **There is no reliability gap for the Canadian Entities, as these entities are successfully operating in a Cold Climate through the associated extremes**, with the aid of their current operating instructions, procedures, training, and specific station design.	

The concern for the GO/GOP with less than adequate winterization plan in place (i.e., Texas, SPP) is not applicable to Canadian entities. In those regions where the GO/GOP do not have winterization implemented, there is always the potential for concurrent cold weather events (outages due to freezing), when temp drops below freezing point and all the GO/GOP are affected at the same time, triggering cascading events. This is not the case for the Canadian entities, and for that reason there should be an **exception in the applicable Facilities, to exclude the Canadian GO/GOP facilities**, as a cost-effective approach, without the undue compliance burden, towards the reliable operation of these facilities.

Likes 0	
Dislikes 0	

Response
Thank you for your comment. The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.

Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO	
Answer	No
Document Name	

Comment
Operating in "extreme" cold weather is normal operating conditions. This standard appears to be more relevant for generating units (GSU in or out of scope debatable) when they are not located inside a powerhouse. For hydraulic generators it is unclear if run of the river water is to

be considered “fuel”. It doesn’t appear to be specifically excluded. Again it is difficult to see the rationale and benefits for this standard towards hydraulic generating units in our region.	
Likes 1	Hydro-Quebec (HQ), 1, Turcotte Nicolas
Dislikes 0	
Response	
Thank you for your comment. The SDT reviewed and discussed industry concerns related to water as a fuel source. The definition of Fixed Fuel Supply Component specifically identifies "equipment that supports the reliable delivery of fuel" and not the fuel itself eliminating the water used to fuel hydropower plants. The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard’s requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.	
Wendy Kalidass - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	
Comment	
Reclamation does not agree. As annotated in this form, multiple requirements are being added which burdens the facilities with excessive requirements and equipment installation.	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment.	
Donald Lock - Talen Generation, LLC - 5	
Answer	No
Document Name	
Comment	
See our comments above.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments.	
Ben Hammer - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
WAPA does not agree. As annotated in this form, multiple requirements are being added with no technical rationale which burdens the facilities with excessive requirements and equipment installation.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comments.	
Robert Follini - Avista - Avista Corporation - 3	
Answer	No
Document Name	
Comment	
This standard is really directed towards thermal generating units that utilize steam or water in their process. It would be much more cost effective for the industry and Avista if the SDT and FERC were to determine the resources most at risk for cold weather compliance restrictions and focus this reliability guidance on those units. For instance hydro facilities have near zero cold weather events, as do simple cycle combustion turbines. Our experience with following the guidance for developing cold weather compliance plans, training, interviewing our folks and determining ECWT for each hydro and simple cycle facility has resulted in very minor changes to the procedures, practices and equipment at these facilities. We feel that the risk to these facilities during extreme cold weather events is very low. It would be most economic for the industry and Avista if the SDT and FERC were to verify the most at risk resources and limit the boundaries of this standard to cover only the at risk generating resource types.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The cold weather report identified that multiple types of generation experienced freezing issues during the event and did not suggest that only specific resource types be targeted by this standard. The drafting team recognizes that different resource types face different risks, and the standard is intended to accommodate all resource types.	
David Jendras Sr - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	

Ameren supports NAGF's comments on this project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to NAGF.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
With the utilization of Good Utility Practice, the SDT has brought into the standard a much better hurdle for use by a Generator Owner to make a declaration. However, the issues identified in Question 1 above must be addressed.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment, please see response to Question 1.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
The requirement for good utility practice brings a measure of reasonableness from a cost and technology perspective that is acceptable.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	Yes
Document Name	
Comment	
PG&E agrees the modifications meet the key recommendations but can not comment on the cost effectiveness.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Alison MacKellar - Constellation - 5	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	

Dislikes 0	
Response	
Thank you for your comment.	
Kimberly Turco - Constellation - 6	
Answer	Yes
Document Name	
Comment	
Constellation has no additional comments. Kimberly Turco on behalf of constellation segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
FirstEnergy has no objections to the approaches presented.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment.	
Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group	
Answer	Yes
Document Name	
Comment	
The MRO NSRF has no comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Ruchi Shah - AES - AES Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Israel Perez - Israel Perez On Behalf of: Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; Thomas Johnson, Salt River Project, 3, 1, 6, 5; Timothy Singh, Salt River Project, 3, 1, 6, 5; - Israel Perez	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Laura Hankins - Laura Hankins On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - Laura Hankins	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Thank you for your support.	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Robin Hill - EDP Renewables North America LLC - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Richard Vendetti - NextEra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Brittany Millard - Lincoln Electric System - 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Dane Rogers - Dane Rogers On Behalf of: Donald Hargrove, OGE Energy - Oklahoma Gas and Electric Co., 3, 1, 5, 6; - Dane Rogers, Group Name OG&E	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Thank you for your support.	
Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Jeffrey Streifling - NB Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Rebecca Zahler - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD Voters	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Micah Runner - Black Hills Corporation - 1	
Answer	
Document Name	
Comment	
Black Hills Corporation will not comment on cost-effectiveness.	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment.	
Rachel Schuldt - Rachel Schuldt On Behalf of: Claudine Bates, Black Hills Corporation, 5, 6, 1, 3; Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	
Document Name	
Comment	
Black Hills Corporation will not comment on cost-effectiveness.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	
Document Name	
Comment	
Black Hills Corporation will not comment on cost-effectiveness.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	

Andrew Smith - APS - Arizona Public Service Co. - 5	
Answer	
Document Name	
Comment	
AZPS will not comment on cost effectiveness of this change.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	
Document Name	
Comment	
NA	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Entity Monitoring	
Answer	
Document Name	

Comment	
No Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	
Document Name	
Comment	
Duke Energy’s focus is to assure the effective and efficient reduction of risks to the reliability and security of the grid and will not provide comments on the cost effectiveness of the proposed changes.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	

7. Provide any additional comments for the standard drafting team to consider, including the provided technical rationale document, if desired.	
Thomas Foltz - AEP - 5	
Answer	
Document Name	
Comment	
AEP believes that the first bullet of in R1.2.2 should have an “or” added to the end, as was previously added to the second bullet. As a result, an “or clause” would collectively apply to all three bulleted items. The SDT’s feedback in their Consideration of Comments document from September 2022 clearly indicates this as their original intent, however adding this “or” to the first bullet would be a step forward in clarity.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once.	
Ben Hammer - Western Area Power Administration - 1,6	
Answer	
Document Name	
Comment	
The inclusion of concurrent wind speed and precipitation requirements in this document enacts an undue burden and cost on industry for a measure that has been added without technical rationale or justification. Wind/precipitation analysis for each component without historical information is of no value added and analyzing individual pieces of equipment for the ability to withstand wind/precipitation is not cost effective and is over-reach.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT believes the language meets the objectives of Key Recommendation 1c in the simplest manner. The standard language does not require analysis on each component, but is structured to look at the units as a whole.	
Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	
Document Name	
Comment	

Please consider the following comments:

1. Remove the heated building exclusion from the definition of Generator Cold Weather Critical Component.

a. The expanded definition for Generator Cold Weather Critical Component is misleading and does not align with the explanation provided in the technical rationale document for EOP-012-2 or with statements made by the Project 2021-07 team during public webinars. From the technical rationale document and webinar comments, the intent was to exclude critical components inside buildings with dedicated building heating equipment. The new definition employs the phrase “heating source that regularly maintains the space”. This phrasing opens the definition to heating sources that are not devices dedicated to building heating.

b. Additionally, the new definition does not support equipment reliability. The exclusion is based on the idea that freeze protection in the form of a building and dedicated heating is already in place to protect critical equipment. By excluding these components, the new definition would also exclude the associated freeze protection measures from requirements R4.5, which requires annual maintenance on freeze protection measures for critical components. Requirement R4.5 mandates maintenance activities to ensure improved equipment reliability, prevent winter reliability events, and prevent CAP entries on events. Excluding buildings and their dedicated heating equipment from the requirements of R4.5 puts the industry at risk of more winter reliability events and does not align with operating experience events learned during Winter Storm Uri related to open doors, windows, etc.

2. Requirement R5 needs to be modified to exclude stations that have no actionable activities in their cold weather preparedness plan as defined in requirement R4. a. Requirement R4 sets the minimum requirements for the contents of the cold weather preparedness plan. The only actionable item in R4 is R4.5, which requires annual inspection and maintenance of freeze protection measures. Requirement R5 requires training for all maintenance or operations personnel responsible for implementing the cold weather preparedness plan. If a station has no activities under R4.5, the station will have no personnel that can be identified as a training audience for R5. Stations may not have freeze protection measures due to factors such as geography, plant design, or an ECWT value above 32oF. Based on the current wording of R5 and comments made by the Project 2021-07 team, stations without actions under R4.5 would still be required to identify and train personnel that do not exist. 3. To efficiently implement compliance requirements for NERC Standard EOP-012-2, please publish the final version of EOP-012-2 RSAW at least 60 days prior to the proposed EOP-012-2 effective date of October 1, 2024.	
Likes 0	
Dislikes 0	
Response	
Thank you for the comments. The intent of the SDT's approach within the Technical Rationale was to recognize that equipment within buildings are, by virtue of the building, protected. The SDT therefore believes the definition of GCWCC sufficiently addresses components inside permanent building with a heating source. Regarding R5, if an entity has an ECWT above 32 degrees, then it does not have any Cold Weather Critical Components. The entity is not expected to operate below its ECWT, and therefore , no freeze protection methods would be applicable. This would be documented in the cold weather plan. In the original EOP-011, the training requirement applied to all units, without exception. The FERC order did not approve the timing on EOP-012 until exceptions were aligned. A cold weather plan is required of all units. The SDT expects that the number of units with an ECWT below 32 degrees will be exceptionally small.	
Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group	
Answer	
Document Name	

Comment
The MRO NSRF has no comments.

Likes 0	
Dislikes 0	

Response
Thank you for your review.

Duane Franke - Manitoba Hydro - 1,3,5,6 - MRO	
Answer	
Document Name	

Comment
We appreciate the drafting team revising the generator cold weather critical component term to exclude components or systems located inside a heated permanent building. For hydraulic generating units this encompasses most, if not all, of the generating components except for GSU's (and potentially generator breakers) located outside the powerhouse. R1, 1.2 uses the term generating units cold weather data to include operating limitations in cold weather and generating units minimum design/operating temperature. With the hydraulic generator being inside a powerhouse the inside ambient temperature is significantly different than the outside ambient temperature. If none of the "generating unit" is outside how do these calculations help the transmission system planners and operators? If just the GSU is outside, then we are doing all this work to prove the transformer can operate outside in cold weather. In Canada, cold weather is not abnormal during winter months and is typical operating conditions. For example, the daily minimum temperature is below zero degrees for our generating units for more than half of the year in 2022. This requirement appears to create more work for the GO without additional benefits to the system planning and operating authority. The technical rational focuses on wind and precipitation as a factor but on the other side does not consider if it is inside and the outdoor ambient temperature has no effect.

In section R1 1.2.2 are all 3 bullets required? Design temp, historical operating temp & engineering analysis? M1 paragraph seems to indicate design or operating or engineering analysis that supports the unit minimum temperature. Consider adding an “or” after the first bullet point in R1 1.2.2 section For the extreme cold weather temperature, is there any consideration if a GO operates annually around this temperature? Is there an allowance/bandwidth of calculated extreme cold weather temperature that would not prompt updating the cold weather preparedness plan? If it is only 1 degree lower than the previous calculated, it is hard to imagine that any cold weather protective measures and plans would need to be updated. Operating in cold weather is normal operation for our utility. For example, the ECWT is -37.0 °C (-34.6 °F) for our south generating units, and -40.0 °C (-40.0 °F) for our north generating units. The cold weather protective measures and plans are the same for these units. R3. Again this seems like a lot of work for a hydraulic generating unit that is entirely inside. Even if the GSU is outside it appears this will just be a documentation exercise. Again we operate in (extreme) cold weather annually. R4. Appears to be a lot of documentation for a hydraulic generating unit especially if it has no cold weather critical components. Extra administration and documentation without increased reliability. As mentioned before, our generating units are operating below 32 degrees Fahrenheit (zero degrees Celsius) for more than half of the time in a year. Cold weather operation in winter is our normal operation. It significantly increases compliance costs if documentation is required for cold weather preparedness plans because they are embedded in the well developed and practiced maintenance and operation procedures. There is a risk of reducing reliability if the routines are broken when trying to reorganize the maintenance and operation procedures. R5. Extra costs associated with specific cold weather training that is normal operating duties for our region. Do not see this as a way to increase reliability.	
Likes 1	Hydro-Quebec (HQ), 1, Turcotte Nicolas
Dislikes 0	
Response	
Thank you for your comments. The technical rationale document provides guidance related to GCWCC. The SDT chose to define a term which specifies a subset of components that may be susceptible to freezing, and are critical to the operation of generating units. GSUs are typically outdoors and designed for the climate they're used in. Additionally, the Reliability Guideline Generating Unit Winter Weather	

Readiness—Current Industry Practices–Version 4 provides a list of potential critical components that generators should consider when implementing freeze protection. The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once.	
Jeffrey Streifling - NB Power Corporation - 1	
Answer	
Document Name	
Comment	
We appreciate that the SDT has modified the term Generator Cold Weather Critical Component to exclude any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C. However, it is still not clear these components are not subject to R2 and R3. R3 does not mention generating units with Generator Cold Weather Critical Components but rather “applicable generating units”. In order to make it clear that these components are not subject to the rest of requirements we suggest modifying the Applicability section 4.2 of the standard with the exclusion any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C or add language to R2 and R3 to specify that generating units located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C are exempt from the requirement. Furthermore, we suggest that water, for hydropower plants, should be explicitly excluded from the definition of “fixed fuel supply component”. Please add an “or” after the first bullet in R1, section 1.2.2.	

We continue to reiterate that Canadian entities do not face the same reliability issue regarding extreme cold weather that were faced in the Mid and Southern USA and provide the following examples as undue administrative burden for hydro power plants in our geographical area:

Requirement 1.1.1 states:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan under Requirement R4 […]"

It is suggested to add "if required" or similar wording to the requirement:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan, if required, under Requirement R4 […]"

The technical rationale being that for a utility routinely operating in the cold, a variation in the ECWT from, as an example, –15 °F to -20 °F will most likely have no impact on the operation in cold weather of the preparation of the hydro generating units to cold weather. However, requirement 1.1.1 would still require an update to the cold weather preparedness plan as it is currently worded. We therefore we question the added value of this calculation in our geographical area. This requirement places an undue administrative burden.

R2 and R3: NERC proposes the threshold of 0°C to determine which groups will or will not be subject to EOP-012. However, in the case of hydro power plants in our geographical area, it is more the configuration of the power plant (run-of-river vs. reservoir, for example) that dictates the protective measures to be taken than the outside temperatures. Some production groups may not have cold protection measures depending on their configuration (for example an underground power plant with a water intake at the bottom of a reservoir). We urge the standard drafting team to take this into consideration.

R4: We don't have dedicated procedures for cold weather preparedness. It is included in our existing procedures and operating instructions for particularities for each generating plant is in each site-specific operating instruction. We fail to see how we could demonstrate compliance

with the requirement the way it is written without creating and maintaining a separate set of documents or umbrella document for the sole purpose of compliance with standard EOP-012. We would like to see the requirement modified to cover the case where an entity has cold weather operating conditions included in existing operating documents without having to create dedicated documents.

R5: Requires annual training to its maintenance or operations personnel responsible for implementing the cold weather preparedness plan(s) developed pursuant to Requirement R4. We do not have annual training specific to cold weather, as this type of operations is an integral part of our operating instructions. Our operators are trained specifically on the generating units for the specific installation which they are working which is documented in the specific operating instruction for that plant. For example, depending on the geographical location of the generating unit in the large area that is Québec, the operating instruction will indicate how to operate the units in the winter, in the summer, or in the springtime flooding with the melting of the snow and ice.

Likes 0	
Dislikes 0	

Response

Thank you for your comments. The intent of the SDT's approach within the Technical Rationale was to recognize that equipment within buildings are, by virtue of the building, protected. The SDT therefore believes the definition of GCWCC sufficiently addresses components inside permanent building with a heating source. The SDT has provided some updated working to R3 that should address some of the concern.

The SDT reviewed and discussed industry concerns related to water as a fuel source. The definition of Fixed Fuel Supply Component specifically identifies "equipment that supports the reliable delivery of fuel" and not the fuel itself eliminating the water used to fuel hydropower plants.

The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once.

The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those

generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.

Fon Hiew - NB Power Corporation - New Brunswick Power Transmission Corporation - 5	
Answer	
Document Name	
Comment	

We support Hydro Quebec's comments:

We appreciate that the SDT has modified the term Generator Cold Weather Critical Component to exclude any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C. However, it is still not clear these components are not subject to R2 and R3. R3 does not mention generating units with Generator Cold Weather Critical Components but rather "applicable generating units". In order to make it clear that these components are not subject to the rest of requirements we suggest modifying the Applicability section 4.2 of the standard with the exclusion any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C or add language to R2 and R3 to specify that generating units located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C are exempt from the requirement.

Furthermore, we suggest that water, for hydropower plants, should be explicitly excluded from the definition of "fixed fuel supply component".

Please add an "or" after the first bullet in R1, section 1.2.2.

We continue to reiterate that Canadian entities do not face the same reliability issue regarding extreme cold weather that were faced in the Mid and Southern USA and provide the following examples as undue administrative burden for hydro power plants in our geographical area:

Requirement 1.1.1 states:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan under Requirement R4 […]"

It is suggested to add "if required" or similar wording to the requirement:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan, if required, under Requirement R4 […]"

The technical rationale being that for a utility routinely operating in the cold, a variation in the ECWT from, as an example, –15 °F to -20 °F will most likely have no impact on the operation in cold weather of the preparation of the hydro generating units to cold weather. However, requirement 1.1.1 would still require an update to the cold weather preparedness plan as it is currently worded. We therefore we question the added value of this calculation in our geographical area. This requirement places an undue administrative burden.

R2 and R3: NERC proposes the threshold of 0°C to determine which groups will or will not be subject to EOP-012. However, in the case of hydro power plants in our geographical area, it is more the configuration of the power plant (run-of-river vs. reservoir, for example) that dictates the protective measures to be taken than the outside temperatures. Some production groups may not have cold protection measures depending on their configuration (for example an underground power plant with a water intake at the bottom of a reservoir). We urge the standard drafting team to take this into consideration.

R4: We don't have dedicated procedures for cold weather preparedness. It is included in our existing procedures and operating instructions for particularities for each generating plant is in each site-specific operating instruction. We fail to see how we could demonstrate compliance with the requirement the way it is written without creating and maintaining a separate set of documents or umbrella document for the sole purpose of compliance with standard EOP-012. We would like to see the requirement modified to cover the case where an entity has cold weather operating conditions included in existing operating documents without having to create dedicated documents. R5: Requires annual training to its maintenance or operations personnel responsible for implementing the cold weather preparedness plan(s) developed pursuant to Requirement R4. We do not have annual training specific to cold weather, as this type of operations is an integral part of our operating instructions. Our operators are trained specifically on the generating units for the specific installation which they are working which is documented in the specific operating instruction for that plant. For example, depending on the geographical location of the generating unit in the large area that is Québec, the operating instruction will indicate how to operate the units in the winter, in the summer, or in the springtime flooding with the melting of the snow and ice.

Likes 0	
Dislikes 0	

Response
Thank you for your comments. FERC had concerns related to exemptions in applicability and the SDT does not believe a geographic or generation source exemption is required. Many regions that have operated in cold climates may be able to meet the requirements of the standard with minimal effort as they have operated successfully for long periods of time. The use of existing operating processes and procedures provide the foundation. The SDT has provided some updated working to R3 that should address some of the concerns. The SDT does not believe a generation source exemption is required. The SDT reviewed and discussed industry concerns related to water as a fuel source. The definition of Fixed Fuel Supply Component specifically identifies "equipment that supports the reliable delivery of fuel" and not the fuel itself eliminating the water used to fuel hydropower plants. The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once.

The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.

Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	
Document Name	
Comment	

OPG supports Hydro-Quebec (HQ) and NPCC Regional Standards Committee's comments.

EOP-012-2 is the latest revision of the Extreme Cold Weather Preparedness and Operations standard, whose previous version was not approved for implementation; FERC directed NERC to revise the existing EOP-012-1. Extreme Cold Weather Preparedness and Operations standard is therefore a new standard.

The proposed EOP-012-2 must be designed from the start to apply throughout North American BES, without the need of an additional reliability standard. EOP-012-2 should not be based on a single geographic or regional model but should consider geographic variations in grid characteristics, terrain, weather, and other such factors.

For example, in the regions where close to the extreme temperatures are reached almost every cold weather season, the existing adequate winterization/training captured in various procedures, operating instructions, and specific station design, already addresses these challenges as proven by the operating history of those entities. This is not the result of a reliability standard; it is a sine qua non condition to be able to operate in such a cold climate, and this ability is being tested almost every year, during the cold season.

There is no reliability gap for such area of the BES where the Extreme Cold Weather temperatures are the norm, where the entities have adequate winterization /training in place, as opposed to the regions where entities have less than adequate winterization measures, or no winterizations measures at all being implemented.

It is in those regions, that the co-occurrence of cold weather events results in equipment and electric system thermal, voltage, and stability limits to be reached, triggering instability, uncontrolled separation, or cascading failures, in such way that appropriate planning could not mitigate.

To recognize and account for the above differences, which cannot be adequately addressed through an all-encompassing standard, the SDT must include an exception for Canadian entities whose generating units are already reliably operating in the extreme cold weather, as proven by the operating history, therefore avoiding the undue compliance burden.

This is considered part the scope of a SDT developing a new standard, and there shall be no implied expectation of a SAR to be initiated to remind us that NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American Bulk Power Systems, which should address the geographic variations in grid characteristics, as relates to weather, in a cost effective manner.

PRC-012-2 Draft 2 requirements are an unjustified burden for those entities already successfully operating reliably in a cold climate, without additional benefit to reliability and unnecessary for those existing entities' support provided for Reliable Operation of the Bulk Power System.

PRC-012-2 Draft 2 fails to adequately meet the reliability principles that define the foundation of reliability for North American Bulk Power Systems like:

- As written this standard is designed for geographical/regional model with entities without adequate winterization measures in place yet is blanketly applied throughout the NERC regions, without considering the weather operating history, and regardless how this affects the need for Reliability Standard Requirements.
- As written this standard is not destined to achieve its reliability goal effectively and efficiently, due to disregard of unnecessary implementation cost for entities already operating reliably in a cold climate
- The ERO would have a hard time explaining the additional compliance burden balancing with respect to vital public interest, given the latest draft standard, where such standard requirements are unwarranted. Cold weather preparedness should not render the energy price prohibitive for the end user.

PRC-012-2 wording should clearly delineate water from fuel category from the perspective of Extreme Cold Weather Preparedness and Operations standard. Fuel can be considered a substance that produces useful amount of energy when it undergoes a chemical or nuclear reaction. This will eliminate any standard scope inclusion of fixed fuel component associated with water for the hydro units.

Creating and maintaining a separate set of documents or all-encompassing document for the sole purpose of compliance with standard EOP-012 should not be the purpose of this standard (i.e., audit easiness) as long as the separate procedure/operating instructions covers adequately the entities' performance in cold weather operating conditions (as proven by the operating history).

We are equally responsible for BES reliability. EOP-012-2 may create inconsistencies or conflicts with other NERC Reliability Standards, such as BAL-002-3 (Disturbance Control Standard – Contingency Reserve for Recovery from a Balancing Contingency Event), which requires Balancing Authorities to maintain contingency reserves to respond to disturbances.

Latest draft EOP_012-2 will impose additional costs and burdens on Generator Owners to develop, implement, and maintain or enhance their extreme cold weather plans, together with their additional costs and burdens associated with the compliance evidence collection/retention; these undue costs and burdens are particularly evident for the entities already operating reliably in cold climate.

EOP-012-2 places the onus entirely on the GO/GOP and may not adequately address the root causes or contributing factors of the February 2021 Event, such as fuel supply issues, natural gas infrastructure limitations, interconnection coordination challenges, or communication and situational awareness gaps.

We appreciate that the SDT has modified the term Generator Cold Weather Critical Component to exclude any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C. However, it is still not clear these components are not subject to R2 and R3. R3 does not mention generating units with Generator Cold Weather Critical Components but rather "applicable generating units". In order to make it clear that these components are not subject to the rest of requirements we suggest modifying the Applicability section 4.2 of the standard with the exclusion any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C or add language to R2

and R3 to specify that generating units located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C are exempt from the requirement.

Furthermore, we suggest that water, for hydropower plants, should be explicitly excluded from the definition of "fixed fuel supply component".

Please add an "or" after the first bullet in R1, section 1.2.2.

We continue to reiterate that Canadian entities do not face the same reliability issue regarding extreme cold weather that were faced in the Mid and Southern USA and provide the following examples as undue administrative burden for hydro power plants in our geographical area:

Requirement 1.1.1 states:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan under Requirement R4 […]"

It is suggested to add "if required" or similar wording to the requirement:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan, if required, under Requirement R4 […]"

The technical rationale being that for a utility routinely operating in the cold, a variation in the ECWT from, as an example, –15 °F to -20 °F will most likely have no impact on the operation in cold weather of the preparation of the hydro generating units to cold weather. However,

requirement 1.1.1 would still require an update to the cold weather preparedness plan as it is currently worded. We therefore we question the added value of this calculation in our geographical area. This requirement places an undue administrative burden.

R2 and R3: NERC proposes the threshold of 0°C to determine which groups will or will not be subject to EOP-012. However, in the case of hydro power plants in our geographical area, it is more the configuration of the power plant (run-of-river vs. reservoir, for example) that dictates the protective measures to be taken than the outside temperatures. Some production groups may not have cold protection measures depending on their configuration (for example an underground power plant with a water intake at the bottom of a reservoir). We urge the standard drafting team to take this into consideration.

R4: We don't have dedicated procedures for cold weather preparedness. It is included in our existing procedures and operating instructions for particularities for each generating plant is in each site-specific operating instruction. We fail to see how we could demonstrate compliance with the requirement the way it is written without creating and maintaining a separate set of documents or umbrella document for the sole purpose of compliance with standard EOP-012. We would like to see the requirement modified to cover the case where an entity has cold weather operating conditions included in existing operating documents without having to create dedicated documents.

R5: Requires annual training to its maintenance or operations personnel responsible for implementing the cold weather preparedness plan(s) developed pursuant to Requirement R4. We do not have annual training specific to cold weather, as this type of operations is an integral part of our operating instructions. Our operators are trained specifically on the generating units for the specific installation which they are working which is documented in the specific operating instruction for that plant. For example, depending on the geographical location of the generating unit in the large area that is Québec, the operating instruction will indicate how to operate the units in the winter, in the summer, or in the springtime flooding with the melting of the snow and ice.

Likes 0	
Dislikes 0	
Response	

Thank you for your comments. The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR. The SDT reviewed and discussed industry concerns related to water as a fuel source. The definition of Fixed Fuel Supply Component specifically identifies "equipment that supports the reliable delivery of fuel" and not the fuel itself eliminating the water used to fuel hydropower plants. The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once. Many regions that have operated in cold climates may be able to meet the requirements of the standard with minimal effort as they have operated successfully for long periods of time. The use of existing operating processes and procedures provide the foundation. For R5, if existing training for cold weather is sufficient for the requirement, documentation will be needed.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	

Thank you for your review.	
Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group	
Answer	
Document Name	
Comment	
No additional comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Casey Perry - PNM Resources - 1,3 - WECC,Texas RE	
Answer	
Document Name	
Comment	
None	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	

Document Name	
Comment	
NRG would like clarification regarding training of maintenance personnel performing inspection activities. Is it the intent of the SDT to ensure that all personnel, including vendors that do preliminary inspections and/or repairs must train to the specific site plan?	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT discussed this comment and determined that R5 provides the needed clarity - "maintenance or operations personnel responsible for implementing the cold weather preparedness plan(s)" does not indicate that vendors doing work or repairs on equipment prior to the winter season are responsible for implementing the plan.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	
Document Name	
Comment	
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Likes 0	
Dislikes 0	
Response	
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Marty Hostler - Northern California Power Agency - 3,4,5,6	

Answer	
Document Name	
Comment	
In FERC and NERC's 2017 Cold Weather report they suggested a three-prong approach to address cold weather reliability issues: guidance, standard modifications, and market rules modifications. To date only guidance and standard modifications have been implemented. We suggest BA's and RC's which have experienced the recent cold weather events modify their market rules and interconnection requirements, which they can do without NERC, if they want to improve reliability in their areas.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT cannot address market related issues or interconnection requirements.	
Michael Whitney - Northern California Power Agency - 3,4,5,6	
Answer	
Document Name	
Comment	
In FERC and NERC's 2017 Cold Weather report they suggested a three-prong approach to address cold weather reliability issues: guidance, standard modifications, and market rules modifications. To date only guidance and standard modifications have been implemented. We suggest BA's and RC's which have experienced the recent cold weather events modify their market rules and interconnection requirements, which they can do without NERC, if they want to improve reliability in their areas.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT cannot address market related issues or interconnection requirements.	

C. A. Campbell - LS Power Development, LLC - 5	
Answer	
Document Name	
Comment	

While it's clear the Standard Drafting Team made every attempt to align the revisions to the FERC Order, there are key areas that need revisiting.

1) We are concerned with R1.2.2. that requires various data sources that may not provide value.

For older plants, design data at the unit level, despite providing little current operational value, will be difficult if the plant is a group of systems with different manufacturers. Further, this data will be challenging if not impossible to obtain if the plant has changed ownership multiple times. In this situation requiring only an engineering analysis to ascertain current operational cold weather capabilities and readiness is reasonable.

For newer plants with limited wear and tear on components, as an alternative to an engineering analysis, it would be practical to only require design data to establish operational thresholds.

2) We do not agree with the revised definition of Generator Cold Weather Critical Component. We were under the impression the effort was to focus the list to include only critical components exposed to cold weather and could result in a defined 'event'. Expanding the definition to include dedicated "heating sources" pulls weatherization measures into the list. Where does it end?

3) We don't agree with the implementation plan and requirements to have CAPs developed by 4/1/2025 with staggered 24 & 48 month completions. As written, the revisions pose an enormous cost and administrative burden.

We can appreciate the challenge of balancing the FERC order against the burdens it will pose to affected Entities. Thank you so much for the opportunity to comment.

Likes 0	
Dislikes 0	
Response	

Thank you for your comments. R1.2.2 has three options, which the SDT believes can address the concerns of both older and newer plants. The definition of GCWCC provides specific exclusions regarding permanent buildings with a heating source.	
Brittany Millard - Lincoln Electric System - 5	
Answer	
Document Name	
Comment	
R1.2.2 is confusing as written, clarification is necessary to indicate if the first bullet is mandatory with a choice between second and third bullet or if it is a choice between the 3 bullet points. The word “or” after the first bullet would clarify if that is the intent. Under R3, FERC rejected a one-hour timing requirement for the existing generating units to operate at the Extreme Cold Weather Temperature (ECWT). Draft 2 of EOP-012-2 now has no time frame that a Generator in operation prior to 2027 should be able to run. As written, this appears to assume that the unit must be able to run indefinitely at the ECWT or Implement freeze protection measure or a Corrective Action Plan to do so, while newer units (post October 2027) are only required to run for a period of 12 hours under R2 at their ECWT combined with a new criteria of wind speed. LES understands that removing the timing requirement from R3 was a purposeful decision by the SDT however, clarification of how long existing generators must be able to run during their ECWT could prevent confusion over potential non compliances.	
Likes 0	
Dislikes 0	
Response	
Thank you for the question. The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once. Regarding R3, after FERC rejected the one-hour timing requirement, and taking into consideration other industry comments expressing concern for creating unreasonable compliance obligations, the SDT chose not to include a set amount of time that a unit must run. The CAP process is meant to address issues that prevent units from running at the ECWT.	

Stephen Whaite - Stephen Whaite On Behalf of: Lindsey Mannion, ReliabilityFirst , 10; - Stephen Whaite, Group Name ReliabilityFirst Ballot Body Member and Proxies	
Answer	
Document Name	
Comment	
RF appreciates the continued efforts of the Standard Drafting Team on this project.	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Lauren Giordano - Lauren Giordano On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; - Lauren Giordano	
Answer	
Document Name	
Comment	
In FERC and NERC's 2017 Cold Weather report they suggested a three prong approach to address cold weather reliability issues: guidance, standard modifications, and market rules modifications. To date only guidance and standard modifications have been implemented. We suggest BA's and RC's which have experienced the recent cold weather events modify their market rules and interconnection requirements, which they can do without NERC, if they want to improve reliability in their areas.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT cannot address market related issues or interconnection requirements.	

Alyssia Rhoads - Public Utility District No. 1 of Snohomish County - 1	
Answer	
Document Name	
Comment	
I would like to see the word "OR" added under 1.2.2 after the first bullet, for clarity.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The use of "OR" after the second bullet is consistent with how standards are generally drafted.	
Richard Vendetti - NextEra Energy - 5	
Answer	
Document Name	
Comment	
Regarding Requirement R4 4.4. Documentation of freeze protection measures implemented on Generator Cold Weather Critical Components which may include measures used to reduce the cooling effects of wind determined necessary by the Generator Owner to protect against heat loss, and where applicable, the effects of freezing precipitation (e.g., sleet, snow, ice, and freezing rain);	

Objection: Wind turbine blades in certain geographies can be susceptible to icing even when the turbine is experiencing temperatures warmer than the ECWT. Generator Owner requests consideration and flexibility due to these conditions and potential temporary impacts to production.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT understands the concerns raised and has put in the ability to have a declaration when necessary.	
Nicolas Turcotte - Hydro-Quebec (HQ) - 1	
Answer	
Document Name	
Comment	

We appreciate that the SDT has modified the term Generator Cold Weather Critical Component to exclude any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C. However, it is still not clear these components are not subject to R2 and R3. R3 does not mention generating units with Generator Cold Weather Critical Components but rather "applicable generating units". In order to make it clear that these components are not subject to the rest of requirements we suggest modifying the Applicability section 4.2 of the standard with the exclusion any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C or add language to R2 and R3 to specify that generating units located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C are exempt from the requirement.

Furthermore, we suggest that water, for hydropower plants, should be explicitly excluded from the definition of "fixed fuel supply component".

Please add an "or" after the first bullet in R1, section 1.2.2.

We continue to reiterate that Canadian entities do not face the same reliability issue regarding extreme cold weather that were faced in the Mid and Southern USA and provide the following examples as undue administrative burden for hydro power plants in our geographical area:

Requirement 1.1.1 states:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan under Requirement R4 […]"

It is suggested to add "if required" or similar wording to the requirement:

"If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan, if required, under Requirement R4 […]"

The technical rationale being that for a utility routinely operating in the cold, a variation in the ECWT from, as an example, –15 °F to -20 °F will most likely have no impact on the operation in cold weather of the preparation of the hydro generating units to cold weather. However, requirement 1.1.1 would still require an update to the cold weather preparedness plan as it is currently worded. We therefore we question the added value of this calculation in our geographical area. This requirement places an undue administrative burden.

R2 and R3: NERC proposes the threshold of 0°C to determine which groups will or will not be subject to EOP-012. However, in the case of hydro power plants in our geographical area, it is more the configuration of the power plant (run-of-river vs. reservoir, for example) that dictates the protective measures to be taken than the outside temperatures. Some production groups may not have cold protection measures depending on their configuration (for example an underground power plant with a water intake at the bottom of a reservoir). We urge the standard drafting team to take this into consideration.

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R5: Requires annual training to its maintenance or operations personnel responsible for implementing the cold weather preparedness plan(s) developed pursuant to Requirement R4. We do not have annual training specific to cold weather, as this type of operations is an integral part of our operating instructions. Our operators are trained specifically on the generating units for the specific installation which they are working which is documented in the specific operating instruction for that plant. For example, depending on the geographical location of the generating unit in the large area that is Québec, the operating instruction will indicate how to operate the units in the winter, in the summer, or in the springtime flooding with the melting of the snow and ice. Assuming that the Applicability section 4.2 of the standard would be

modified with our proposed exclusion of any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C, corresponding changes would need to be made to this requirement to exclude these components from annual training.	
Likes 1	Ontario Power Generation Inc., 5, Chitescu Constantin
Dislikes 0	

Response

Thank you for your comments. FERC had concerns related to exemptions in applicability and the SDT does not believe a geographic or generation source exemption is required. Many regions that have operated in cold climates may be able to meet the requirements of the standard with minimal effort as they have operated successfully for long periods of time. The use of existing operating processes and procedures provide the foundation. The SDT has provided some updated working to R3 that should address some of the concerns. The SDT does not believe a generation source exemption is required.

The SDT reviewed and discussed industry concerns related to water as a fuel source. The definition of Fixed Fuel Supply Component specifically identifies "equipment that supports the reliable delivery of fuel" and not the fuel itself eliminating the water used to fuel hydropower plants.

The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once.

The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.

Junji Yamaguchi - Hydro-Quebec (HQ) - 5

Answer	

Document Name	
Comment	

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working which is documented in the specific operating instruction for that plant. For example, depending on the geographical location of the generating unit in the large area that is Québec, the operating instruction will indicate how to operate the units in the winter, in the summer, or in the springtime flooding with the melting of the snow and ice. Assuming that the Applicability section 4.2 of the standard would be modified with our proposed exclusion of any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C, corresponding changes would need to be made to this requirement to exclude these components from annual training.

Likes 0	
Dislikes 0	

Response

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Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Entity Monitoring	
Answer	
Document Name	
Comment	

It appears that the SDT mentions the Initial Performance of Periodic Requirements in terms of currently registered entities. Assuming the Standard becomes effective October 1, 2024 and an entity is registered October 2, 2027, please clarify when the SDT expects the entity to have performed R1? Prior to commercial operations date or within 5 calendar years of commercial operations date?

The SDT should confer with observing FERC staff to see if Recommendation 1d is covered effectively. Recommendation 1d states "The standard drafting team should specify the specific timing for the CAP to be developed and implemented after the outage, derate, or failure to start, but the CAP should be developed as quickly as possible, and **be completed by no later** than the beginning of the next winter season." R1 addresses development of a CAP within six (6) months. R2 and R3 have no CAP development time stated. R6 has a development time stated ("..within 150 days or by July 1, whichever is earlier.."). R7's initiating point is the development of a CAP in R1, R2, R3, or R6 but does not address completion "by no later than the beginning of the next winter season." The SDT should consider a development time for CAPs developed pursuant to R2 and R3. Furthermore, the SDT should document why the completion timeline is not defined. It is clear that new equipment or freeze protection measure, based on what that might be, could have an extended timeframe, but the language provided allows for ANY new equipment or freeze protection measure to take up to 48 months or longer to be implemented.

The SDT should consider notification of CAPs to those entities relying on generators to be available. An entity could hold a CAP for an extended timeframe, including winter, without any notification as to the readiness for cold weather. An action is not administrative if the action is needed to ensure reliability.

As written, a CAP could have multiple declarations throughout its lifetime depending upon the nature of the CAP. Is it a requirement to make a declaration in conjunction with the CAP (i.e., at the same time) or make the declaration when an action is not going to be implement? In one sense, would a CAP be developed if the constraint could not be mitigated and simply a declaration be made to that effect?

Based on the possibility of a single CAP addressing multiple units, a single unit could be addressed in a declaration. When that occurs, is the expectation of the SDT to require an entity to create a new CAP for the single unit, or modify the CAP to reflect the unit will not meet the CAP but the others will?

For consistency- Adjust R1 Part 1.1.1 last sentence to state "….within six (6) months…" What is the timetable for updating the cold weather preparedness plan after development of a CAP? Is there an expectation that an update is required if a CAP is developed?	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT has modified R7 to include a 24-month completion requirement. Additionally, GO's must document in a declaration any identified GCWC's. After much discussion with NERC, it has been determined that GCWC's will most likely be handled through Section 1600 data requests. The CAP requires a timetable, and the cold weather preparedness plan should be updated per the timetable included in the relevant CAP.	
Tracy MacNicoll - Utility Services, Inc. - 4	
Answer	
Document Name	
Comment	
The subrequirements of R7.1 should clarify that the actions identified in the CAP are what need to be completed in the time intervals. Not just listing the action items.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT has modified R7 to include a 24-month completion requirement.	
Kimberly Turco - Constellation - 6	
Answer	
Document Name	

Comment
Constellation has no additional comments. Kimberly Turco on behalf of constellation segments 5 and 6

Likes 0	
Dislikes 0	

Response
Thank you for your review.

Alison MacKellar - Constellation - 5	
Answer	
Document Name	

Comment
Constellation has no additional comments. Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0	
Dislikes 0	

Response
Thank you for your review.

Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	

Document Name	
Comment	
NA	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson	
Answer	
Document Name	
Comment	
PG&E recommends the SDT add the R2 Footnote 2 and R3 Footnote 3 (exemption language for ECWT above 32) to be applicable to R5. If the generator ECWT is greater than 32 and therefore R2 and R3 are not applicable, what would be the objective of having training when there is no capability of freezing? PG&E believes it is imperative to ensure training applies to plant personnel to ensure the focus of personnel and resources is on the highest priorities tasks, and if the ECWT is above 32, there would be no reason for training.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT chose not to modify previously approved language. The FERC order directed every GO to have a cold weather preparedness plan and training regardless of ECWT. If the ECWT is above the 32 there is a small possibility that the generator could experience temperatures below 32 in the future.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	

Answer	
Document Name	
Comment	

Requirement 1.2.1 currently requires Generator Owners to identify generating unit operating limitations in cold weather. Dominion Energy is concerned that this could be interpreted to include cold start up timeframes, which are not necessarily operating limitations. Dominion Energy is of the opinion that cold starts during extreme cold weather should not be included as an operating criteria or requirement in the Standard and should be specifically excluded.

Requirement 6 addresses the development of Corrective Action Plans for units that have an Event during extreme cold weather. The proposed version requires the development to occur at the earlier of either 150 days or July 1 after the Event. Dominion Energy is of the opinion that the July 1 date is arbitrary and does not add any reliability benefit, but rather unnecessarily reduces the timeframe to develop for late season extreme cold weather events. Dominion Energy recommends that the July 1 date be removed from the Requirement and that all Corrective Action Plans be given a 150-day timeframe for development.

Likes 0	
Dislikes 0	
Response	

Thank you for your comments. The SDT chose not to revise the CAP development timeframe. There is no expectation to complete a CAP by July 1, but to have an understanding of the corrective actions needed prior to the start of the next winter.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer	
Document Name	
Comment	

Thank you for the opportunity to Comment.

Likes 0	

Dislikes 0	
Response	
Thank you for your review.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	
Document Name	
Comment	

For Requirement R1 Part 1.1.1, it doesn't seem logical to only reference generating units that are subject to Requirement R3. As time progresses, the ECWT re-calculations could identify generating units that are subject to Requirement R2 that need corrective actions as well. We suggest the following wording for the last sentence in R1 Part 1.1.1:

"*If new corrective actions are needed to provide the required operational capability under Requirement* ***R2 or*** *R3, the entity shall develop a Corrective Action Plan* ***in accordance with Requirement R7*** *within 6 months of the recalculation.*"

For Requirement R1 Part 1.2.2, we recommend an "or" be added after the first design temperature bullet if the intent is to allow the GO to utilize either of the three bulleted approaches to identify their generating unit(s) minimum.

We reiterate our comment submitted on Draft 1 that some existing contracts for new units are being delayed past 10/1/27 due to manpower and equipment supply chain issues. These contracts do not necessarily include all the cold weather requirements from this standard. Changing the contracts would at the minimum be expensive and, at the worst, may not be possible. Therefore we suggest the Requirement R2 commercial operation date stipulation be revised to "on or after October 1, 2030". This would also result in the Requirement R3 commercial operation date stipulation being changed to "prior to October 1, 2030".

Likes 0	
Dislikes 0	
Response	
Thank you for your comments.	

R1 Comment - the CAP process is included R2. The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once. R2 Comment - The SDT fully understood the concern regarding plants in construction, as such, the standard language provides for the option to implement a Corrective Action Plan with up to a 48-month timeframe to get the appropriate freeze protection measures implemented.
Keith Jonassen - Keith Jonassen On Behalf of: John Pearson, ISO New England, Inc., 2; - Keith Jonassen

Answer	
Document Name	

Comment

ISO-NE believes that the requirements R2 and R3 should be combined into a single Requirement that applies the enhanced cold weather requirements currently contained within Requirement R2 to all units.

Other Requirements with the CAP allow for the 48 months for upgrades, which would allow for the implementation for new commercial units as well as existing units. Keeping the requirements separate guarantees in 2027 a Standard update will need to occur to remove an outdated requirement.

ISO-NE recommends simplifying the process with R2 and R3 to eliminate future administrative work. These requirements would not fit into the Standards Efficiency Review goals and therefore should be combined.

As stated in previous comments the ECWT is calculated higher than actually experienced temperatures. In some areas the ECWT is 20 degrees or greater higher than actually experienced. PJM provided the data for their region during the FERC filing/commenting period after Phase 1 demonstrating the temperature difference between ECWT and Actual.

In addition to the PJM data ISO-NE has identified multiple areas within New England where ECWT is >20 degrees than actual low temperatures (since 2000). As a good practice, generators have been able to demonstrate operability at the lower temperatures in New England which experiences Cold Weather temperatures with some regularity. As written due to the higher ECWT values than experienced temperatures and the subsequent demonstration of capability during those low temperatures, ISO-NE does not expect many generator freeze protection upgrades to be needed in its area.

Likes 0	
Dislikes 0	

Response
Thank you for your comments. The SDT reviewed and decided not to make this change.

Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	

Comment

Texas RE noticed EOP-012-2 Requirement R1 does not state that the Generator Owner needs to document the calculation and other details included in the requirement. While the measure section states that the GO shall retain data or evidence to support the ECWT,

Texas RE is concerned that not including language to document the activities Requirement R1, could result in inconsistent interpretation of the need for maintaining proper evidence.

In addition, Texas RE suggests revising Requirement R1 for GO to perform the ECWT calculations on **annual** basis instead of every five calendar years, in order to ensure that the most recent and current information is used to prepare unit's cold weather preparedness plan. Performing the calculations every five calendar years could create a long lag time for identifying any incremental reliability improvements if a cold weather event happened immediately after a GO performed its ECWT calculation. Performing the ECWT calculations annually could also help to include any lessons learned from the latest weather event and updating any operating limitations in the annual Generator Cold Weather Constraint declaration under Requirement R8.

Texas RE recommends that Requirement R1 should provide specificity to which data source should be used for calculating ECWT to support standardization and to help with verifying the data during an audit.

Texas RE seeks clarification on whether the reference to Requirement R2 in (1.1.1) was removed intentionally. Texas RE believes that the reference to Requirement R2 shall remain in R1 (1.1.1.). Texas RE recommends the following verbiage:

R1: At least once every five calendar years, Each Generator Owner shall at least annually document, for each of its applicable generating unit(s): [Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]

Texas RE noticed that in the Requirement R1, 1.1 'applicable **generating** unit(s)' is changed to 'applicable unit(s). For consistency, Texas RE suggests retaining the reference 'applicable **generating** unit(s)' in Requirement R1, 1.1. Texas RE recommends the following verbiage:

1.1 Calculate the Extreme Cold Weather Temperature for each of its applicable generating unit(s) **using a reliable source of data from a recording location near the plant and** identify the calculation date and source of temperature data; and

Texas RE requests Requirement R5 be clarified to include training for all personnel including contractors that are responsible for implementation and maintenance of the freeze protection measures required to keep the generating unit reliable during extreme cold weather conditions. Texas RE proposes the following verbiage (changes in bold):

R5. Each Generator Owner in conjunction with its Generator Operator shall identify the entity, **whether its GO or GOP or both**, responsible for providing the generating unit-specific training, and that identified entity shall provide annual training to its maintenance or operations personnel **including third-party contractors** responsible for implementing the cold weather preparedness plan(s) **and maintaining the freeze protection measures** developed pursuant to Requirement R4.

Likes 0	
Dislikes 0	
Response	

Thank you for your comments. R1 - the ECWT must be documented in the cold weather preparation plan required in R4. The SDT chose a five-year re-calculation date as we feel an annual calculation will not have a significant deviation from the previous year. This creates an additional annual burden without significant impact. Entities are free to calculate ECWT more frequently if they desire. The SDT believes the R5 language, as written, covers the scenarios suggested in this comment. Please see the technical rationale for additional information.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	
Document Name	
Comment	

We appreciate that the SDT has modified the term Generator Cold Weather Critical Component to exclude any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C. However, it is still not clear these components are not subject to R2 and R3. R3 does not mention generating units with Generator Cold Weather Critical Components but rather “applicable generating units”. In order to make it clear that these components are not subject to the rest of requirements we suggest modifying the Applicability section 4.2 of the standard with the exclusion any component located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C or add language to R2 and R3 to specify that generating units located inside a permanent building with a heating source that maintains the space at a temperature above 32 degrees F / 0 degrees C are exempt from the requirement.

Furthermore, we suggest that water, for hydropower plants, should be explicitly excluded from the definition of “fixed fuel supply component”.

Please add an “or” after the first bullet in R1, section 1.2.2.

We continue to reiterate that Canadian entities do not face the same reliability issue regarding extreme cold weather that were faced in the Mid and Southern USA and provide the following examples as undue administrative burden for hydro power plants in our geographical area:

Requirement 1.1.1 states:

“If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan under Requirement R4 […]”

It is suggested to add “if required” or similar wording to the requirement:

“If the recalculated Extreme Cold Weather Temperature is lower than the previous Extreme Cold Weather Temperature, the entity shall review and update its cold weather preparedness plan, if required, under Requirement R4 […]”

The technical rationale being that for a utility routinely operating in the cold, a variation in the ECWT from, as an example, –15 °F to -20 °F will most likely have no impact on the operation in cold weather of the preparation of the hydro generating units to cold weather. However, requirement 1.1.1 would still require an update to the cold weather preparedness plan as it is currently worded. We therefore we question the added value of this calculation in our geographical area. This requirement places an undue administrative burden.

R2 and R3: NERC proposes the threshold of 0°C to determine which groups will or will not be subject to EOP-012. However, in the case of hydro power plants in our geographical area, it is more the configuration of the power plant (run-of-river vs. reservoir, for example) that dictates the protective measures to be taken than the outside temperatures. Some production groups may not have cold protection measures depending on their configuration (for example an underground power plant with a water intake at the bottom of a reservoir). We urge the standard drafting team to take this into consideration.

R4: We don't have dedicated procedures for cold weather preparedness. It is included in our existing procedures and operating instructions for particularities for each generating plant is in each site-specific operating instruction. We fail to see how we could demonstrate compliance with the requirement the way it is written without creating and maintaining a separate set of documents or umbrella document for the sole purpose of compliance with standard EOP-012. We would like to see the requirement modified to cover the case where an entity has cold weather operating conditions included in existing operating documents without having to create dedicated documents.

R5: Requires annual training to its maintenance or operations personnel responsible for implementing the cold weather preparedness plan(s) developed pursuant to Requirement R4. We do not have annual training specific to cold weather, as this type of operations is an integral part of our operating instructions. Our operators are trained specifically on the generating units for the specific installation which they are working which is documented in the specific operating instruction for that plant. For example, depending on the geographical location of the generating unit in the large area that is Québec, the operating instruction will indicate how to operate the units in the winter, in the summer, or in the springtime flooding with the melting of the snow and ice.

EOP-012-2 is the latest revision of the Extreme Cold Weather Preparedness and Operations standard, whose previous version was not approved for implementation; FERC directed NERC to revise the existing EOP-012-1. Extreme Cold Weather Preparedness and Operations standard is therefore a new standard.

The proposed EOP-012-2 must be designed from the start to apply throughout North American BES, without the need of an additional reliability standard. EOP-012-2 should not be based on a single geographic or regional model but should consider geographic variations in grid characteristics, terrain, weather, and other such factors.

For example, in the regions where close to the extreme temperatures are reached almost every cold weather season, the existing adequate winterization/training captured in various procedures, operating instructions, and specific station design, already addresses these challenges as proven by the operating history of those entities. This is not the result of a reliability standard; it is a sine qua non condition to be able to operate in such a cold climate, and this ability is being tested almost every year, during the cold season.

There is no reliability gap for such area of the BES where the Extreme Cold Weather temperatures are the norm, where the entities have adequate winterization /training in place, as opposed to the regions where entities have less than adequate winterization measures, or no winterizations measures at all being implemented.

It is in those regions, that the co-occurrence of cold weather events results in equipment and electric system thermal, voltage, and stability limits to be reached, triggering instability, uncontrolled separation, or cascading failures, in such way that appropriate planning could not mitigate.

To recognize and account for the above differences, which cannot be adequately addressed through an all-encompassing standard, the SDT must include an exception for Canadian entities whose generating units are already reliably operating in the extreme cold weather, as proven by the operating history, therefore avoiding the undue compliance burden.

This is considered part the scope of a SDT developing a new standard, and there shall be no implied expectation of a SAR to be initiated to remind us that NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American Bulk Power Systems, which should address the geographic variations in grid characteristics, as relates to weather, in a cost effective manner.

PRC-012-2 Draft 2 requirements are an unjustified burden for those entities already successfully operating reliably in a cold climate, without additional benefit to reliability and unnecessary for those existing entities' support provided for Reliable Operation of the Bulk Power System.

PRC-012-2 Draft 2 fails to adequately meet the reliability principles that define the foundation of reliability for North American Bulk Power Systems like:

{C}Ø As written this standard is designed for geographical/regional model with entities without adequate winterization measures in place yet is blanketly applied throughout the NERC regions, without considering the weather operating history, and regardless how this affects the need for Reliability Standard Requirements.

{C}Ø As written this standard is not destined to achieve its reliability goal effectively and efficiently, due to disregard of unnecessary implementation cost for entities already operating reliably in a cold climate

{C}Ø The ERO would have a hard time explaining the additional compliance burden balancing with respect to vital public interest, given the latest draft standard, where such standard requirements are unwarranted. Cold weather preparedness should not render the energy price prohibitive for the end user.

PRC-012-2 wording should clearly delineate water from fuel category from the perspective of Extreme Cold Weather Preparedness and Operations standard. Fuel can be considered a substance that produces useful amount of energy when it undergoes a chemical or nuclear reaction. This will eliminate any standard scope inclusion of fixed fuel component associated with water for the hydro units.

Creating and maintaining a separate set of documents or all-encompassing document for the sole purpose of compliance with standard EOP-012 should not be the purpose of this standard (i.e., audit easiness) as long as the separate procedure/operating instructions covers adequately the entities' performance in cold weather operating conditions (as proven by the operating history).

We are equally responsible for BES reliability. EOP-012-2 may create inconsistencies or conflicts with other NERC Reliability Standards, such as BAL-002-3 (Disturbance Control Standard – Contingency Reserve for Recovery from a Balancing Contingency Event), which requires Balancing Authorities to maintain contingency reserves to respond to disturbances.

Latest draft EOP_012-2 will impose additional costs and burdens on Generator Owners to develop, implement, and maintain or enhance their extreme cold weather plans, together with their additional costs and burdens associated with the compliance evidence collection/retention; these undue costs and burdens are particularly evident for the entities already operating reliably in cold climate.

EOP-012-2 places the onus entirely on the GO/GOP and may not adequately address the root causes or contributing factors of the February 2021 Event, such as fuel supply issues, natural gas infrastructure limitations, interconnection coordination challenges, or communication and situational awareness gaps.

Likes 0	
Dislikes 0	
Response	

Thank you for your comments. The intent of the SDT's approach within the Technical Rationale was to recognize that equipment within buildings are, by virtue of the building, protected. The SDT therefore believes the definition of GCWCC sufficiently addresses components inside permanent building with a heating source. The SDT has provided some updated working to R3 that should address some of the concerns. The SDT does not believe a geographic or generation source exemption is required.

The SDT reviewed and discussed industry concerns related to water as a fuel source. The definition of Fixed Fuel Supply Component specifically identifies "equipment that supports the reliable delivery of fuel" and not the fuel itself eliminating the water used to fuel hydropower plants.

The use of "Or" after the second bullet is consistent with drafting of standards, to reflect that entities may choose from multiple options. The "Or" is only used once.

The drafting team believes that it is important for all generators to remain vigilant to the potential reliability effects of extreme cold weather, particularly as the grid transforms to one that is more susceptible to the risks of such weather. The drafting team expects that those generators that have consistently demonstrated satisfactory performance during cold weather will be able to meet or exceed the standard's requirements with little additional burden. The drafting team has made clarifications that existing materials may be used to demonstrate compliance. The drafting team does not believe that excluding Canadian entities or other entities that have consistently demonstrated satisfactory performance during cold weather from future compliance with cold weather standards, solely on the basis of historical performance, is consistent with the recommendations of the cold weather report or the SAR.

The SDT does not believe a geographic or generation source exemption is required. Many regions that have operated in cold climates may be able to meet the requirements of the standard with minimal effort as they have operated successfully for long periods of time. The use of existing operating processes and procedures provide the foundation.

Teresa Krabe - Lower Colorado River Authority - 5	
Answer	
Document Name	
Comment	

None at this time.	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	
Document Name	
Comment	
Southern wished to thank the SDT for their efforts to provide adequate requirements that provide meaningful requirements that are balanced and reasonable.	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	
Document Name	
Comment	
The NAGF has no additional comments.	

Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	
Document Name	
Comment	
Thank you for the opportunity to comment.	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Ruchi Shah - AES - AES Corporation - 5	
Answer	
Document Name	
Comment	
AES Clean Energy strongly recommends that either NERC, the Standard Drafting Team or a group of industry experts representing various generator types develop implementation guidance or CMEP Practice Guide for EOP-012-2. This will help alleviate issues regarding interpretation of the requirement language as it pertains to each type of generator.	

Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT will pass on this recommendation.	
Colin Chilcoat - Invenergy LLC - 6	
Answer	
Document Name	
Comment	
None	
Likes 0	
Dislikes 0	
Response	
Thank you for your review.	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	
Document Name	
Comment	
The SRC appreciates the drafting team's work in revising EOP-012 to address the directives from FERC, but as further detailed below, the SRC believes that additional revisions are needed to fully address FERC's directives. **Clarify Ambiguity in Requirement R1**	

The SRC notes that the reference to Requirement R2 has been removed from R1.1.1. The SRC believe that it is important for R1.1.1 to address both Requirement R2 and Requirement R3; the SRC therefore recommends that the reference to Requirement R2 be reinserted in R1.1.1.

Remove ambiguity from Applicability provisions - FERC has directed that the standard should apply to all BES generation resources needed for reliable operation and exclude only those generation resources not relied upon during freezing conditions. The SRC agrees with the proposed revisions to the Applicability section of the Standard and requests that Requirements R2, R3, and R6 be revised to replace "self-commits or that is required to operate" with "that may be committed to operate" and that footnotes 2, 3, and 5 be removed or revised. The SRC believes these modifications are required to meet the FERC directive regarding the universe of units to which EOP-012 should apply. Without these revisions, Requirements R2, R3, and R6 and footnotes 2, 3, and 5 appear to allows unit(s) needed for reliable operation to be exempt from meeting the Requirements to implement freeze protection measures and develop a CAP as needed. The SRC believes that removing footnotes 2, 3, and 5 is the best way to meet the FERC directive, but proposes that the language contained in footnotes 2, 3, and 5 be reworded to read as follows in the event the drafting team elects to keep these footnotes in EOP-012:

Generating unit(s) that were intentionally designed for limited operation in the summer season, but may operate on a "best efforts" basis during the winter season when needed in order to assist in the mitigation of BES Emergencies, Capacity Emergencies, or Energy Emergencies during periods at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius), are exempt from this requirement.

Add timing specificity for required inspections & maintenance - The SRC recommends that Requirement R4, Part 4.5 be revised to require inspections and maintenance of all units on "at least an annual basis, and always within three months of the upcoming winter season." This request is due to past and current findings in which the GO/GOP did not initiate inspection and maintenance early enough or prior to winter and was consequently not prepared for cold weather operations in a timely manner.

Ensure sufficient data provision to BAs - Phase II of the Cold Weather Recommendations in FERC's report on Winter Storm Uri indicated in its discussion of TOP-003-5 in Key Recommendation 1g that the Reliability Standards should be revised to provide greater specificity about the relative roles of the Generator Owners, Generator Operators, and Balancing Authorities in determining the generating unit capacity that can be relied upon during "local forecasted cold weather." Key Recommendation 1g further indicated that "Based on its understanding of the 'full reliability risks related to the contracts and other arrangements [Generator Owners/Generator Operators] have made to obtain natural gas commodity and transportation for generating units,' each Generator Owner/Generator Operator should be required to provide the Balancing Authority with data on the percentage of the generating unit's capacity that the Generator Owner/Generator Operator reasonably believes the Balancing Authority can rely upon during the 'local forecasted cold weather.'" Given the importance of this information, the SRC requests that EOP-012-2 include a Requirement that clearly requires the GO/GOP to provide Real-time derate/outage data to its BA in order for the BA to have accurate and timely knowledge of operating reserves and situational awareness of unplanned unit constraints as a result of the extreme cold weather. While this information is currently included in BA data specifications, adding a dedicated Requirement addressing this topic is appropriate given the importance of outage reporting to the BA during extreme cold weather conditions and the importance of Key Recommendation 1g of the *Report.* **Combine Requirements R2 and R3 -** The SRC also disagrees that the enhanced cold weather requirements that are contained within Requirement R2 should be limited to units that enter commercial operation after October 1, 2027. Requirements R2 and R3 should be combined into a single Requirement that applies the enhanced cold weather requirements currently contained within Requirement R2 to all units and only allows CAPs for units that achieved commercial operations before October 1, 2027. The Generator Cold Weather Constraint declaration process and the Corrective Action Plan process within EOP-012 provide sufficient accommodation for existing units. Adopting the SRC's proposal would require more thorough weatherization of generation units, resulting in a more reliable and performant BES during extreme cold weather conditions. **Revisit disposition of prior SRC comments** - Finally, the SRC disagrees with the SDT's disposition of our comments submitted in response to **Phase 2 - Draft 1 of EOP-012-2**. We ask the SDT to reconsider our recommendations. Consideration of Comments.	
Likes 0	

Dislikes 0	

Response

The SDT appreciates SRCs comments and has reviewed the suggested revisions. The inclusion of "self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit" and the footnote language was found to be acceptable by the majority of industry.

The SDT discussed and concluded that the information required by the BA, RC, and TOP, including information related to constraint declarations, generator availability and operating limitations is available pursuant to TOP-003 and IRO-010. Specific informational needs required by any BA or RC are already authorized to be requested under TOP-003 and IRO-010.

The SDT thinks it is appropriate to have two requirements addressing existing units vs new units separately. The SDT is having to balance with industry comments from northern units that have largely not experienced significant issues during extreme cold weather and as such would view the SRC proposed requirements as overly prescriptive.

The SDT believes that even though the SRC comments have not been implemented does not mean the team has not considered the comments. The drafting team is balancing multiple industry comments from different segments, therefore, the SDT does not have any changes to our previous response to the SRC in Draft 1.

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer	
Document Name	

Comment

1. The addition of “impacts of freezing precipitation” in the Generator Cold Weather Reliability Event may result in additional constraints to the CAP implementation timelines for northern utilities. Although BC’s coldest weather months are December – February, the inclusion of freezing precipitation impacts may result in EOP-012 events well into the Spring calendar months (March, April, or even May in extreme conditions) in British Columbia, which – given the July 1 deadline – will add considerable burden in timely completion of the CAP in the context of Requirement R6.

BC Hydro recommends that the wording of the Requirement R6 be changed to allow up to 150 calendar days in cases where the July 1 is not be feasible for events later in the year.

2. The wording “for each of its applicable unit(s)” in Requirement R1 Part 1.1 appears redundant as the applicability to “each of its applicable generating unit(s)" is already specified in the main part of R1. Recommend removing it from Part 1.1.

3. Requirements R2 and R3 include three different descriptors applied to “freeze protection measures”:

- “freeze protection measures to protect Generator Cold Weather Critical Components that provide the capability”;
- “freeze protection measures to provide the capability”; and
- “freeze protection measures that provide the capability”

Without a definition for “freeze protection measure” or a consistent language, the intention of the freeze protection measure may be interpreted differently.

BC Hydro recommends revising the wording for consistency or provide a stand alone definition of the “freeze protection measure”.

4. Per Requirement R3, for generating units in commercial operation prior to October 1, 2027 there will not be an expectation to have the capability to operate at ECWT for 12 continuous hours or max operational duration for intermittent energy resources. This appears to be supported by the requirement R3 section of the Technical Rationale: “to address the FERC order on EOP-012-1 that rejected a one-hour timing requirement, the SDT chose not to put a specific time in R3 as to not create an unreasonable compliance obligation.” Please confirm if this understanding is accurate.

Likes 0	
Dislikes 0	

Response

Thank you for your comment.
1. The standard does account for the impacts of freezing precipitation to meet the objectives of Key Recommendations. The SDT chose not to revise the CAP development timeframe. There is no expectation to complete a CAP by July 1, but to have an understanding of the corrective actions needed prior to the start of the next winter.
2. The team does not believe the wording is contradictory and will not change at this time.
3. The team has made the descriptors in R2 and R3 consistent.

4. Regarding R3, after FERC rejected the one-hour timing requirement, and taking into consideration other industry comments expressing concern for creating unreasonable compliance obligations, the SDT chose not to include a set amount of time that a unit must run. The CAP process is meant to address issues that prevent units from running at the ECWT.