

Meeting Notes

Project 2023-07 Transmission System Planning Performance Requirements for Extreme Weather

January 23, 2024 | 1:00–2:00 p.m. Eastern

Review NERC Antitrust Compliance Guidelines and Public Announcement

Jordan Mallory, NERC staff, called attention to the NERC Antitrust Compliance Guidelines and the public meeting notice

Roll Call

J. Mallory completed the team roll call and quorum was not met, but the team continued the meeting as a working meeting and will recap during its next meeting that quorum is present. The member attendance sheet is attached as Attachment 1.

Parking Lot

J. Mallory brought the new parking lot table that will be attached to each agenda and meeting notes. This will keep the team moving forward and ensure questions or actions brought forth to the team that need additional time or to be addressed later will be added to the parking lot and reviewed during each meeting.

Outreach

J. Mallory drafted an outreach presentation for any drafting team members who need a presentation for outreach purposes. J. Mallory also mentioned that the team has an outreach plan and to please provide any outreach being completed so it can be added to the communication plan record.

Review Redline Requirements (Requirement R8)

The below pictures where Requirement R8 stood before the drafting team meeting on January 23, 2024. Notes from drafting team members below the picture and the final Requirement R8 outcome following discussion.

R8. Each responsible entity, as determined in Requirement R1, shall ~~complete~~ perform Extreme Temperature Assessments, at least once every 5 years. Extreme Temperature

Assessments shall be performed using System models identified in Requirement ~~R1~~R2, with documented assumptions, and documented results of the steady state and stability analyses. Qualifying studies need to include sensitivity cases to demonstrate the impact of changes to the basic assumptions used in the model. To accomplish this, the sensitivity analysis in the Extreme Temperature Assessment must include one or more of the following conditions by a sufficient amount to stress the System within a range of credible conditions that demonstrate a measurable change in System response:
[Violation Risk Factor:] [Time Horizon:]

8.1. ~~Generation Pattern~~Availability

8.2. ~~Expected~~ transfers

8.3. ~~Real and reactive forecasted~~ Load

8.4. ~~Generation Affected by Extreme weather Events such as~~ drought condition, wind generation tripping off, solar generation dropping off, and gas plants facing operational issues due to gas restrictions or freeze-offs

8.5. ~~Variations in transfer levels, recognizing that the impacts of extreme weather events can influence the transfer of power~~

M8. Each responsible entity, as determined in Requirement R1, shall provide dated evidence, such as electronic or hard copies of the studies, utilized in preparing ~~and performing~~ Extreme Temperature Assessments in accordance with Requirement R8.

Requirement R8 Drafting Team Discussion

- The team ended the last meeting with a question from Sun Wook Kang regarding asking if the phrase “include one or more of the following conditions by a sufficient amount to stress the System” was sufficient in addressing FERC Order 896 was seeking. Team members mentioned that the standard requires a minimum of one sensitivity analysis but can do as many as needed. The group determined that this phrase is accurate and addresses the FERC Order. See FERC Order 896 P 126:

Although TPL-001-5.1 mandates sensitivity analysis by varying one or more conditions specified in the standard such as load, generation, and transfers, this analysis alone cannot capture the complexities of extreme heat and cold weather conditions. Sensitivity analyses consider the impact on a base case of the variability of discrete variables. Extreme heat and cold weather impacts, on the other hand, may include numerous concurrent outages and derates which cannot be studied as part of a single-variable sensitivity analysis. Under the new or modified Reliability Standard, however, these outages will be captured in the benchmark planning case upon which sensitivity analyses will be performed.

- The team discussed subparts 9.1-9.5, as shown in the picture above. Team members felt that 9.4 and 9.5 were too much to be in the requirements as those are examples of what 9.1-9.3 required. Some team members felt it was important to have the examples somewhere as there will be questions on what the team means by “generation availability.” The drafting team determined to move 9.4 and 9.5 subparts to the attachment.
- It was mentioned that Requirement R8 seems packed and needs to be split up. After reviewing the language in the above picture, the team agreed it should be split. Please see the picture below showing the updated standard based on discussion from the January 23, 2024, meeting.

R8. Each responsible entity, as determined in Requirement R1, shall perform Extreme Temperature Assessments, at least once every 5 years using System models identified

in Requirement R4, with documented assumptions, and documented results of the steady state and stability analyses. *[Violation Risk Factor: High] [Time Horizon: Long-term Planning]*

M8. Each responsible entity, as determined in Requirement R1, shall provide dated evidence, such as electronic or hard copies of the studies, utilized in preparing and performing Extreme Temperature Assessments in accordance with Requirement R8.

R9. Extreme Temperature Assessments need to include sensitivity analysis to demonstrate the impact of changes to the basic assumptions used in the model. To accomplish this, the sensitivity analysis in the Extreme Temperature Assessment shall include, at a minimum, one of the following conditions: *[Violation Risk Factor:] [Time Horizon:]*

8.1.9.1. Generation availability

8.2.9.2. Expected transfers

8.3.9.3. Real and reactive forecasted Load

M9.

Next Steps

The team will start reviewing Requirement R9 during its next drafting team meeting, which will be January 25, 2024, from 12:30 – 3:00 p.m. eastern.

Adjourn

The drafting team adjourned at 2:02 p.m. eastern.


Parking Lot Items:

Date Submitted	Action Item	Submitter
1/22/2024	TPL-008-1 Attachment 1 Updates	Sun Wook
1/23/2024	ETA and Evil Three	Meena

Questions for the team:

1. Do any of the below mean the same as another term?
2. Is there a process flow to these terms? (i.e., extreme heat and extreme cold benchmark event, initial benchmark power flow base cases, benchmark planning cases)
3. Are there any terms missing that are important to our project?
4. Do we need to add any of the terms below to the NERC glossary of terms to ensure we are clear? Only term below proposed is the Extreme Temperature Assessments.
5. We use the term “contingency” in our attachment, Do we want to capitalize it and use the definition that is housed in the NERC glossary of terms? See def. below in table.

Term	Definition	Image	Notes
Extreme Temperature Assessments	Documented evaluation of future Transmission System performance for extreme heat and extreme cold temperature benchmark events and Corrective Action Plans to remedy identified deficiencies.		Defined term in standard
extreme heat and extreme cold benchmark events	An extreme cold or extreme heat event. (e.g., winter storm Elliott, winter storm Uri, June 26-30, 2021 Pacific NW event, etc.)		
Potential benchmark events	available data sets of projected future weather.		

Geographical boundaries	separation of regions (MRO, RF, SERC, TRE, NPCC, WECC)		
Electrical boundaries	impacts to inter-tie across a region.		
Initial benchmark power flow base cases			
Benchmark planning cases			
Initial benchmark study case	initial power flow condition that captures extreme temperature impacts on load and seasonal outages of generation determined by the benchmark event. Generator derates and outages due to temperature not accounted for in the foundational case.		Is this the same as Initial benchmark power flow base cases?
Sensitivity benchmark study cases			
long-term planning cases			
Scenario Cases (P0 Case)			Will need to update Attachment 1 from scenario cases to sensitivity study cases
Contingency	The unexpected failure or outage of a system component, such as a		This is a NERC Glossary of term. WE do not have

	generator, transmission line, circuit breaker, switch or other electrical element.		it capitalized in our standard. Do we want to capitalize it?
Corrective Action Plan (CAP)	A list of actions and an associated timetable for implementation to remedy a specific problem.		Used in our standard.
Interconnection	A geographic area in which the operation of Bulk Power System components is synchronized such that the failure of one or more of such components may adversely affect the ability of the operators of other components within the system to maintain Reliable Operation of the Facilities within their control. When capitalized, any one of the four major electric system networks in North America: Eastern, Western, ERCOT and Quebec.		We do not use this in the standard, but adding in case it would be useful.
Planning Assessment	Documented evaluation of future Transmission System performance and Corrective Action Plans to remedy identified deficiencies.		Used in our standard.
Load	An end-use device or customer that receives power from the electric system.		Used in our standard.

NERC Antitrust Guidelines

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition. It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Disclaimer

Participants are reminded that this meeting is public. Notice of the meeting was posted on the NERC website and widely distributed. The notice included the number for dial-in participation. Participants should keep in mind that the audience may include members of the press and representatives of various governmental authorities, in addition to the expected participation by industry stakeholders.

NERC Standards Development Process-Participant Conduct Policy

https://www.nerc.com/pa/Stand/Resources/Documents/NERC_Participant_Conduct_Policy.pdf

	Name	Entity	Attendance
Chair	Evan Wilcox	American Electric Power	N
Vice Chair	Jared Shaw	Entergy Services	Y
Members	Josie Daggett	Western Area Power Administration	Y
	David Duhart	Southwest Power Pool	N
	Michael Herman	PJM Interconnection	N
	Tracy Judson	Florida Power & Light	Y
	Sun Wook Kang	ERCOT	Y
	Andrew Kniska	ISO New England	Y
	Dmitry Kosterev	Bonneville Power Administration	Y
	David Le	California ISO	Y
	Karl Perman	CIP CORPS	N
	Meenakshi Saravanan	ISO New England	N
	Kurtis Toews	Manitoba Hydro	N
	Hayk Zargaryan	Southern California Edison	Y
PMOS Liaison	Jason Chandler	Con Edison	Y
	Donovan Crane	WECC	Y
NERC Staff	Jordan Mallory – Standards Developer	North American Electric Reliability Corporation	Y

	Name	Entity	Attendance
	Lauren Perotti – Assistant General Counsel	North American Electric Reliability Corporation	N
	Scott Barfield-McGinnis	North American Electric Reliability Corporation	N