What’s the first thing you think of when you hear “extreme weather planning”?

WECC

TPL-008: An Auditor's Perspective

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Electric Reliability & Security for the West

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

- The purpose of this project is to address the reliability gap pertaining to the consideration of extreme heat and cold weather events that exist in current transmission planning standards.
- Order 896 June 15, 2023
- Approved February 20, 2025
- Effective Dates
  - April 1, 2026 (R1)
  - April 1, 2028 (R2-R6)
  - April 1, 2030 (R7-R11)
- SAR-Summer of 2025
  - Address the transmission planning reliability gaps that do not expressly require Transmission Planners and Planning Coordinators to consider (1) normal and extreme weather, (2) gas-electric interdependencies, and (3) DER in the Long-Term Planning Horizon.

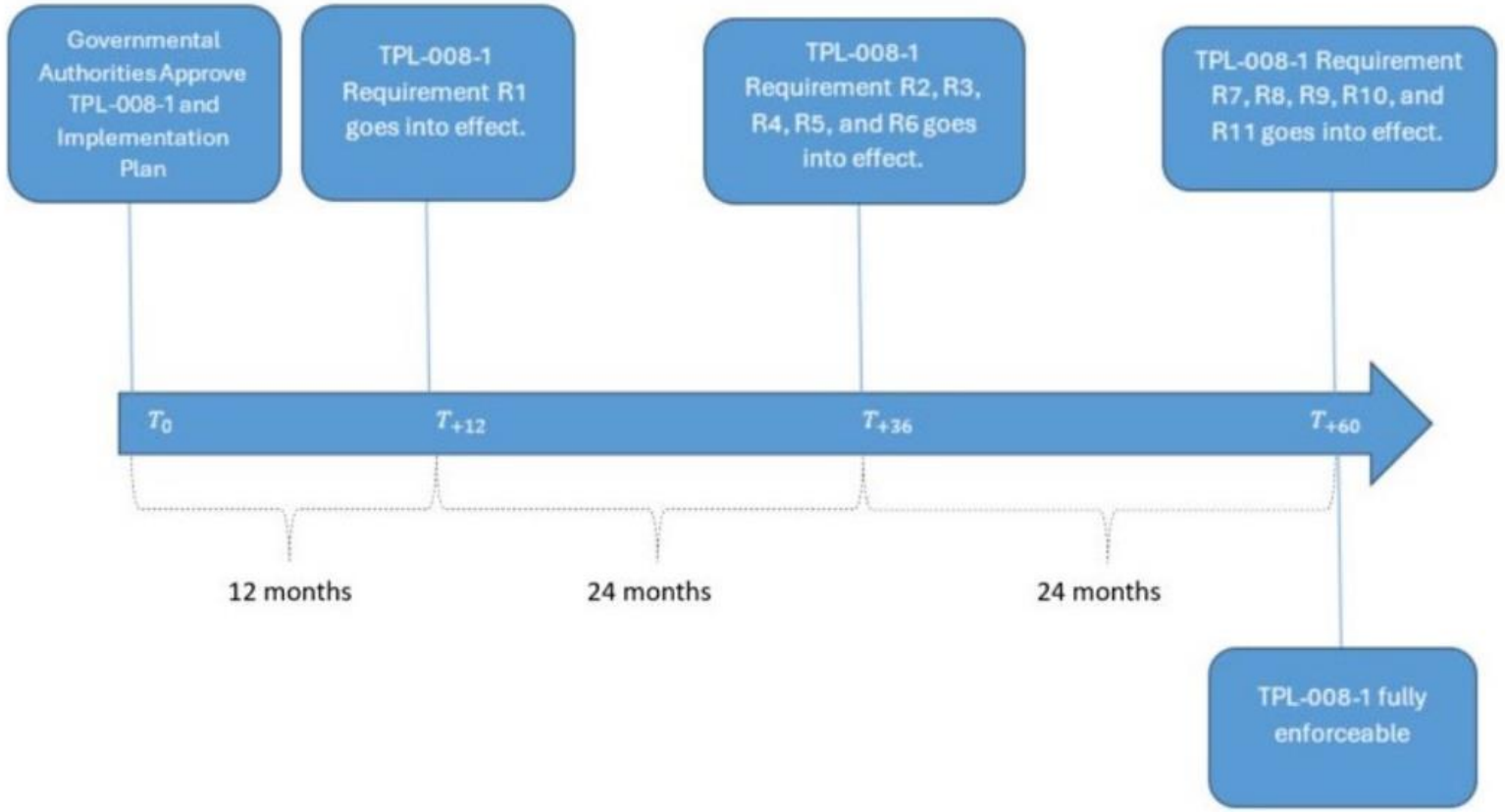
Definitions and Applicability

Extreme Temperature Assessment—Documented evaluation of future Bulk Electric System performance for extreme heat and extreme cold benchmark temperature events.

Planning Coordinator	Transmission Planner

Implementation Plan

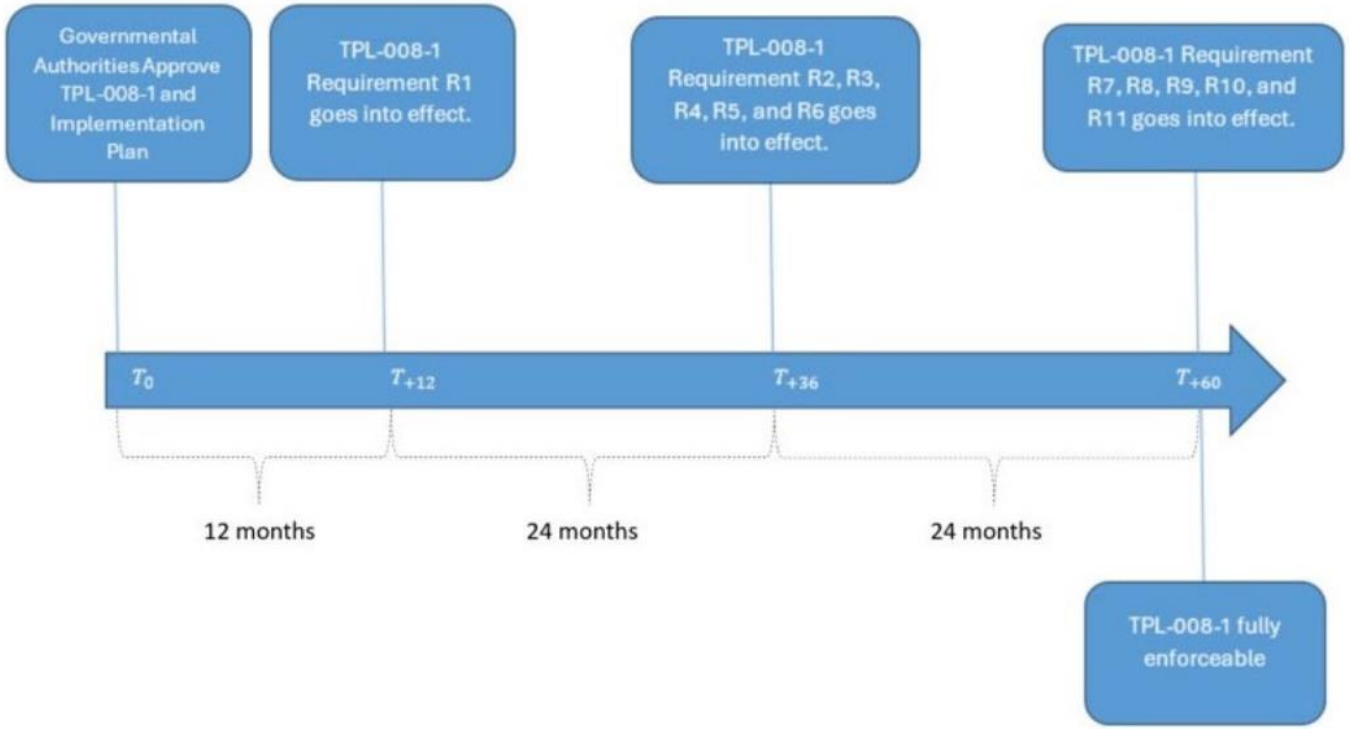
Figure 1: Implementation Plan, Demonstrating Effective Date and Phased-in Compliance Dates from the effective date of the governmental authority's order approving this standard



Implementation Plan

- R1—Responsibilities
- R2—Zones
- R3—Development Process
- R4—Benchmark cases
- R5—Voltage limits
- R6—Evil 3 instability/separation/Cascading
  - document criteria
- R7—Contingencies
- R8—Steady/Stab Benchmark
- R9—CAPs
- R10—Likely Evil 3 actions
- R11—Provide ETA

Figure 1: Implementation Plan, Demonstrating Effective Date and Phased-in Compliance Dates from the effective date of the governmental authority's order approving this standard



Requirement R1

- R1: Planning Coordinator (PC) shall identify (in conjunction with its Transmission Planner(s))
  - Individual and joint responsibilities for completing the Extreme Temperature Assessment (ETA) for R2 through R11
  - Each responsible entity shall complete responsibilities so that the ETA is completed at least once every five calendar years

In one word, what does “in conjunction” mean to you as a Transmission Planner/Planning Coordinator?

Requirement R1

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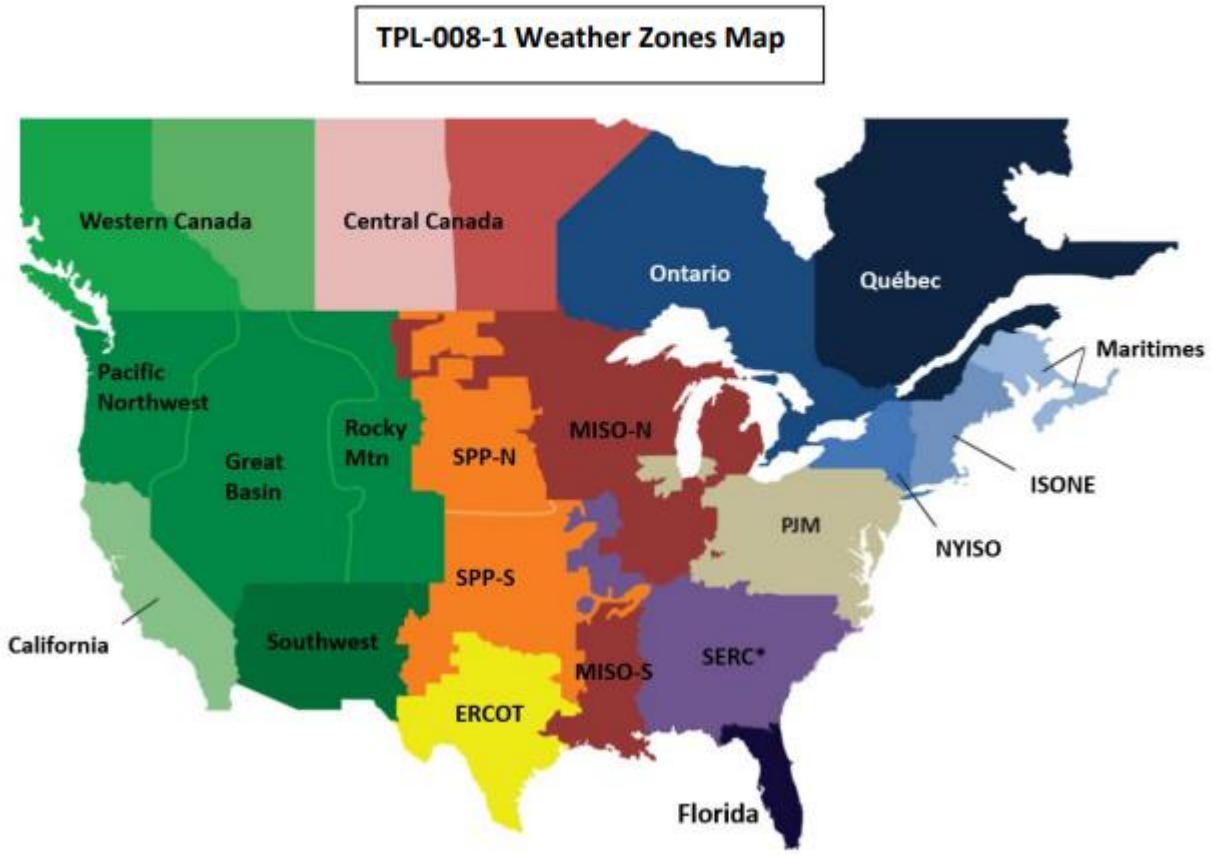
How would an auditor know who has the identified responsibility? (Select the best answer)

Requirement R2 (Zone Map)

- PC identify zone
- Coordinate with other PCs on one heat/cold event from ERO library or their own
- Considering:
  - No less than 40 years temp data, representing 1 of 20 most extreme condition based on rolling three-day average
  - Note: the rolling three-day average is provided on the Project page

The map below depicts an approximation of the zones to be used in the Extreme Temperature Assessment and is provided as a visual aid; to the extent that there is a conflict between the map and the table, the table controls. This map is not to be used for compliance purposes.



The ERO Library consists of benchmark temperature events. Do registered entities get to select something different than what is in the library?

Requirement R3

- R3: Each PC will coordinate with PCs in zones to implement a process for developing benchmark planning cases for selected benchmark cases (R2) AND sensitivity cases. The process shall include:
  - System model selection in Long-Term Transmission Planning Horizon to form basis for benchmark planning cases
  - The forecast seasonal and temperature adjustments for Load, generation, Transmission, and transfers within the zone
  - Assumed seasonal and temperature adjustments for Load, generation, Transmission, and transfers outside the zone (as needed)
  - Identification of changes to at least one of the following for sensitivity cases: generation, real and reactive forecast Load, or transfers

Requirements R4, R5, and R6

- R4: Each responsible entity (R1) to use process (R3) and data consistent with MOD-032 (supplemented by other sources as needed) to develop the following and establish category P0 as normal System condition in Table 1
  - One common extreme heat/one common extreme cold benchmark planning case
  - One common extreme heat/one common extreme cold sensitivity case
- R5: Each responsible entity (R1) shall have criteria for acceptable System steady state voltage limits and post-Contingency voltage deviations for completing the Extreme Temperature Assessment
- R6: Each responsible entity (R1) shall define and document the criteria or methodology used in the ETA to identify instability, uncontrolled separation, or Cascading within an interconnection

How confident are you that your entity could demonstrate compliance with TPL-008-1 R1 today?

Questions?

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