

**Reliability Standard Audit Worksheet[[1]](#footnote-1)**

# TPL-008-1 – Transmission System Planning Performance Requirements for Extreme Temperature Events

***This section to be completed by the Compliance Enforcement Authority.***

|  |  |
| --- | --- |
| **Audit ID:** | Audit ID if available; or REG-NCRnnnnn-YYYYMMDD |
| **Registered Entity:** | Registered name of entity being audited |
| **NCR Number:** | NCRnnnnn |
| **Compliance Enforcement Authority:** | Region or NERC performing audit |
| **Compliance Assessment Date(s)[[2]](#footnote-2):** | Month DD, YYYY, to Month DD, YYYY |
| **Compliance Monitoring Method:** | [On-site Audit | Off-site Audit | Spot Check] |
| **Names of Auditors:** | Supplied by CEA |

# **Applicability of Requirements**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **BA** | **DP** | **GO** | **GOP** | **IA** | **LSE** | **PC** | **PSE** | **RC** | **RP** | **RSG** | **TO** | **TOP** | **TP** | **TSP** |
| **R1** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R2** |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |
| **R3** |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |
| **R4** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R5** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R6** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R7** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R8** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R9** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R10** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |
| **R11** |  |  |  |  |  |  | X |  |  |  |  |  |  | X |  |

**Legend:**

|  |  |
| --- | --- |
| Text with blue background: | Fixed text – do not edit |
| Text entry area with green background: | Entity-supplied information |
| Text entry area with white background: | Auditor-supplied information |

Findings

**(This section to be completed by the Compliance Enforcement Authority)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Req.** | **Finding** | **Summary and Documentation** | **Functions Monitored** |
| **R1** |  |  |  |
| **R2** |  |  |  |
| **R3** |  |  |  |
| **R4** |  |  |  |
| **R5** |  |  |  |
| **R6** |  |  |  |
| **R7** |  |  |  |
| **R8** |  |  |  |
| **R9** |  |  |  |
| **R10** |  |  |  |
| **R11** |  |  |  |

|  |  |
| --- | --- |
| **Req.** | **Areas of Concern** |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **Req.** | **Recommendations** |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **Req.** | **Positive Observations** |
|  |  |
|  |  |
|  |  |

Subject Matter Experts

Identify the Subject Matter Expert(s) responsible for this Reliability Standard.

**Registered Entity Response (Required; Insert additional rows if needed):**

|  |  |  |  |
| --- | --- | --- | --- |
| **SME Name** | **Title** | **Organization** | **Requirement(s)** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

R1 Supporting Evidence and Documentation

**R1.** Each Planning Coordinator shall identify, in conjunction with its Transmission Planner(s), each entity’s individual and joint responsibilities for completing the Extreme Temperature Assessment, which shall include each of the responsibilities described in Requirements R2 through R11. Each responsible entity shall complete its responsibilities such that the Extreme Temperature Assessment is completed at least once every five calendar years.

**M1.** Each Planning Coordinator, in conjunction with its Transmission Planner(s), shall provide documentation of each entity’s individual and joint responsibilities, such as meeting minutes, agreements, copies of procedures or protocols, in effect between entities or between departments of a vertically integrated system, or email correspondence that identifies an agreement has been reached on individual and joint responsibilities for completing the Extreme Temperature Assessment and that these responsibilities were completed such that the Extreme Temperature Assessment was completed once every five calendar years.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requested[[3]](#endnote-1):

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation of each entity’s individual and joint responsibility for completing the Extreme Temperature Assessment. |
| Documentation that the Extreme Temperature Assessment and associated responsibilities were completed at least once every five calendar years. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R1

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R1) Verify an Extreme Temperature Assessment was completed once every five calendar years. |
|  | (R1) Verify the completion of entity’s individual and joint responsibilities for completing the Extreme Temperature Assessment. |
|  | (R1) Identify each entity’s individual and joint responsibilities for completing the Extreme Temperature Assessment at least once every five calendar years. |
| **Note to Auditor:** The phrase “in conjunction” is indicative of a collaborative effort through some means to determine the responsible entity. If an entity indicates that a certain responsibility is not their own, it may be necessary to request the identification of the responsible entity.  Extreme Temperature Assessment - documented evaluation of future Bulk Electric System performance for extreme heat and extreme cold benchmark temperature events. | |

**Auditor Notes:**

R2 Supporting Evidence and Documentation

**R2.** Each Planning Coordinator shall identify the zone(s) to which the Planning Coordinator belongs to under Attachment 1 and shall coordinate with all Planning Coordinators within each of its identified zone(s), to identify one common extreme heat benchmark temperature event and one common extreme cold benchmark temperature event for each of its identified zone(s) when completing the Extreme Temperature Assessment. The benchmark temperature events shall be obtained from the benchmark library maintained by the ERO or developed by the Planning Coordinators. Each benchmark temperature event identified by the Planning Coordinators shall:

**2.1.** Consider no less than a 40-year period of temperature data ending no more than five years prior to the time the benchmark temperature events are selected; and

**2.2.** Represent one of the 20 most extreme temperature conditions based on the three-day rolling average of daily maximum (heat) or daily minimum (cold) temperature across the zone.

**M2.** Each Planning Coordinator shall have evidence in either electronic or hard copy format that it identified the zone(s) to which it belongs to, under Attachment 1, and coordinated with all other Planning Coordinators within each of its identified zone(s) to identify one common extreme heat benchmark temperature event and one common extreme cold benchmark temperature event meeting the criteria of Requirement R2 for each of their identified zone(s) when completing the Extreme Temperature Assessment.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation of identified zone(s) to which the entity belongs, under Attachment 1. |
| Documentation of one common extreme heat benchmark temperature event that was selected after coordination with all Planning Coordinators within each of the identified zone(s). |
| Documentation of one common extreme cold benchmark temperature event that was selected after coordination with all Planning Coordinators within each of the identified zone(s). |
| Documentation that each benchmark temperature event considers no less than a 40-year period of temperature data ending no more than five years prior to the time the benchmark temperature events were selected. |
| Documentation that selected benchmark temperature events represented one of the 20 most extreme temperature conditions based on the three-day rolling average of daily maximum (heat) or daily minimum (cold) temperatures across the zone. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R2

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R2) Verify the entity identified all the zone(s) to which it belongs under Attachment 1. |
|  | (R2) Verify the selection, as coordinated with all Planning Coordinators within the zone, of one common extreme heat benchmark temperature event for each of the entity’s identified zone(s) for completion of the Extreme Temperature Assessment. |
|  | (R2) Verify the selection, as coordinated with all Planning Coordinators within the zone, of one common extreme cold benchmark temperature event for each of the entity’s identified zone(s) for completion of the Extreme Temperature Assessment. |
|  | (Part 2.1.) Verify the selected benchmark temperature events considered no less than a 40-year period of temperature data ending no more than five years prior to the time the benchmark temperature events were selected. |
|  | (Part 2.2.) Verify the selected benchmark temperature events represented one of the 20 most extreme conditions based on the three-day rolling average of daily maximum (heat) or daily minimum (cold) temperature across the zone. |
|  | (R2) Verify coordination between Planning Coordinators within each of the entity’s identified zone(s) was performed to select the common extreme heat and cold benchmark temperature events. |
| **Note to Auditor:** The ERO will maintain a library of benchmark events to provide responsible entities access to vetted benchmark temperature events that meet the criteria of Requirement R2. While selection of events from the ERO’s provided library assures entities they are selecting valid events, Requirement R2 does not preclude entities from collecting temperature data and identifying benchmark temperature events through their own process. Entities that elect to develop their own benchmark temperature events are responsible for ensuring the input temperature data and selected benchmark temperature events meet the criteria of Requirement R2. Additionally, because Requirement R2 requires PCs within a zone to coordinate in the selection of the benchmark temperature events, the process used to identify these events must be agreeable to those PCs. | |

**Auditor Notes:**

R3 Supporting Evidence and Documentation

**R3.** Each Planning Coordinator shall coordinate with all Planning Coordinators within each of its zone(s) identified in Requirement R2, to implement a process for developing benchmark planning cases for the Extreme Temperature Assessment that represent the benchmark temperature events selected in Requirement R2 and sensitivity cases to demonstrate the impact of changes to the basic assumptions used in the benchmark planning cases. This process shall include the following:

**3.1.** Selection of System models within the Long-Term Transmission Planning Horizon to form the basis for the benchmark planning cases.

**3.2.** Forecasted seasonal and temperature dependent adjustments for Load, generation, Transmission, and transfers within the zone.

**3.3.** Assumed seasonal and temperature dependent adjustments for Load, generation, Transmission, and transfers in areas outside the zone, as needed.

**3**.**4**. Identification of changes to at least one of the following conditions for sensitivity cases: generation, real and reactive forecasted Load, or transfers.

**M3.** Each Planning Coordinator shall have dated evidence that it implemented a process for coordinating the development of benchmark planning cases and sensitivity cases for the Extreme Temperature Assessment as specified in Requirement R3.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documented and implemented process(es), in coordination with applicable Planning Coordinators identified in Requirement R2, for the development of benchmark planning cases and sensitivity cases for the Extreme Temperature Assessment. The process(es) must demonstrate the following: |
| Selection of System models within the Long-Term Transmission Planning Horizon to form the basis for the benchmark planning cases. |
| Forecasted seasonal and temperature dependent adjustments for Load, generation, Transmission, and transfers within the zone. |
| Assumed seasonal and temperature dependent adjustments for Load, generation, Transmission, and transfers in areas outside the zone, as needed. |
| Identification of changes to at least one of the following conditions for sensitivity cases: generation, real and reactive forecasted Load, or transfers. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R3

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R3) Verify implementation of process(es), in coordination with all applicable Planning Coordinators within each of the entity’s zone(s) identified in Requirement R2, the development of benchmark planning cases and sensitivity cases for the Extreme Temperature Assessment. Verify this process(es) demonstrate the following: |
|  | (Part 3.1.) Selection of System models within the Long-Term Transmission Planning Horizon to form the basis for the benchmark planning cases. |
|  | (Part 3.2.) Forecasted seasonal and temperature dependent adjustments for Load, generation, Transmission, and transfers within the zone. |
|  | (Part 3.3.) Assumed seasonal and temperature dependent adjustments for Load, generation, Transmission, and transfers in areas outside the zone, as needed. |
|  | (Part 3.4.) Identification of changes to at least one of the following conditions for sensitivity cases: generation, real and reactive forecasted Load, or transfers. |
| **Note to Auditor:** | |

**Auditor Notes:**

R4 Supporting Evidence and Documentation

**R4.** Each responsible entity, as identified in Requirement R1, shall use the process developed in Requirement R3 and data consistent with that provided in accordance with the MOD-032 standard, supplemented by other sources as needed, to develop the following and establish category P0 as the normal System condition in Table 1:

**4.1.** One common extreme heat and one common extreme cold benchmark planning case.

**4.2.** One common extreme heat and one common extreme cold sensitivity case.

**M4.** Each responsible entity, as identified in Requirement R1, shall have dated evidence in either electronic or hard copy format that it developed benchmark planning cases and sensitivity cases in accordance with Requirement R4.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Evidence of one common extreme heat and one common extreme cold benchmark planning case, showing the process developed in Requirement R3 was used and that data was consistent with that provided in accordance with MOD-032 and that category P0 was established. |
| Evidence of one common extreme heat and one common extreme cold sensitivity case, showing the process developed in Requirement R3 was used and that data was consistent with that provided in accordance with MOD-032 and that category P0 was established. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R4

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R4.) Verify that category P0, as the normal System condition in Table 1, was established. |
|  | (Part 4.1.) Verify that one common extreme heat and one common extreme cold benchmark planning case was developed using the process developed in Requirement R3 and with data consistent with that provided in accordance with the MOD-032 standard. |
|  | (Part 4.2.) Verify that one common extreme heat and one common extreme cold sensitivity case was developed using the process developed in Requirement R3 and with data consistent with that provided in accordance with the MOD-032 standard. |
| **Note to Auditor:** The intent of the standard is to evaluate benchmark events where sufficient generation is available to supply load. However, under an extreme heat or extreme cold temperature condition, there may be instances where the benchmark planning cases and/or sensitivity cases may not have sufficient available generation to supply the load. In these scenarios, it may be acceptable for the responsible entity to revise the model to reduce the forecasted Load, or include forecasted generation, to achieve a solution for the benchmark planning cases and/or sensitivity cases and evaluate future Bulk Electric System performance for extreme temperature events. Each responsible entity, as identified in Requirement R1, shall have dated evidence in either electronic or hard copy format that it developed benchmark planning cases and sensitivity cases in accordance with Requirement R4. | |

**Auditor Notes:**

R5 Supporting Evidence and Documentation

**R5.** Each responsible entity, as identified in Requirement R1, shall have criteria for acceptable System steady state voltage limits and post-Contingency voltage deviations for completing the Extreme Temperature Assessment.

**M5.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence, such as electronic or hard copies of the documentation, specifying the criteria for acceptable System steady state voltage limits and post-Contingency voltage deviations for completing the Extreme Temperature Assessment.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation specifying the criteria for acceptable System steady state voltage limits for completing the Extreme Temperature Assessment. |
| Documentation specifying the criteria for acceptable post-Contingency voltage deviations for completing the Extreme Temperature Assessment. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R5

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | Verify the entity, as identified in Requirement R1, has criteria for acceptable System steady state voltage limits for completing the Extreme Temperature Assessment. |
|  | Verify the entity, as identified in Requirement R1, has criteria for acceptable post-Contingency voltage deviations for completing the Extreme Temperature Assessment. |
| **Note to Auditor:** The establishment of these criteria allows auditors to compare the results of the Extreme Temperature Assessment with the established criteria. | |

**Auditor Notes:**

R6 Supporting Evidence and Documentation

**R6.** Each responsible entity, as identified in Requirement R1, shall define and document the criteria or methodology to be used in the Extreme Temperature Assessment to identify instability, uncontrolled separation, or Cascading within an Interconnection.

**M6.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence, such as electronic or hard copies of documentation, specifying the criteria or methodology to be used in the Extreme Temperature Assessment to identify instability, uncontrolled separation, or Cascading within an Interconnection in accordance with Requirement R6.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation specifying the criteria or methodology used in the Extreme Temperature Assessment to identify instability, uncontrolled separation, or Cascading within an Interconnection. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R6

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | Verify the entity has documented criteria or methodology used within the Extreme Temperature Assessment to identify instability, uncontrolled separation, or Cascading within an Interconnection. |
| **Note to Auditor:** The establishment of these criteria allows auditors to compare the results of the Extreme Temperature Assessment with the established criteria. | |

**Auditor Notes:**

R7 Supporting Evidence and Documentation

**R7.** Each responsible entity, as identified in Requirement R1, shall identify the Contingencies for each category in Table 1 that are expected to produce more severe System impacts on its portion of the Bulk Electric System. The rationale for those Contingencies selected for evaluation shall be available as supporting information.

**M7.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence, such as electronic or hard copies of documentation, of the Contingencies for each category in Table 1 that are expected to produce more severe System impacts on its portion of the Bulk Electric System along with supporting rationale.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation, including supporting rationale, of the Contingencies for each category in Table 1 that are expected to produce more severe System impacts on your portion of the Bulk Electric System. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R7

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | Verify that the entity identified Contingencies for each category in Table 1 that are expected to produce more severe System impacts for the entity’s portion of the Bulk Electric System. |
|  | Verify the supporting documentation and rationale for those Contingencies selected for evaluation by the entity. |
| **Note to Auditor:** If feasible, all Contingencies listed in Table 1 should be considered for evaluation by the responsible entity; however, the language affords flexibility in identifying the most impactful Contingencies. As such, the responsible entity must identify, with supporting rationale, the Contingencies within each category of Table 1 that are expected to produce more severe System impacts within its planning area. It is noted that since the benchmark planning cases are developed from the extreme temperature benchmark events, they already represent extreme System conditions and thus not all Contingencies from Reliability Standard TPL-001-5.1 Table 1 are included in the TPL-008-1 Table 1 for assessment. The Events included in TPL-008- 1 Table 1 represent the more likely Contingencies to occur.  Specific to rationale for selecting Contingencies, some, but not all, items to consider are past studies, subject matter expert knowledge of the responsible entity’s System, historical data from past operating events. | |

**Auditor Notes:**

R8 Supporting Evidence and Documentation

**R8.** Each responsible entity, as identified in Requirement R1, shall complete steady state and transient stability analyses in the Extreme Temperature Assessment using the Contingencies identified in Requirement R7, and shall document the assumptions and results. Steady state and transient stability analyses shall be performed for the following:

* 1. Benchmark planning cases developed in accordance with Requirement R4 Part 4.1.
  2. Sensitivity cases developed in accordance with Requirement R4 Part 4.2.

**M8.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence, such as electronic or hard copies of documentation, of the assumptions and results of the steady state and transient stability analyses completed in the Extreme Temperature Assessment.

**Registered Entity Response (Required):**

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation of assumptions used for the development of steady state and transient stability analyses in the Extreme Temperature Assessment. |
| Documentation of results of the steady state and transient stability analyses completed in the Extreme Temperature Assessment. |
| Documentation that the Contingencies identified in Requirement R7 were used to complete the steady state and transient stability analyses in the Extreme Temperature Assessment. |
| Documentation that steady state and transient stability analyses were performed for benchmark planning cases developed in accordance with Requirement R4 Part 4.1. |
| Documentation that steady state and transient stability analyses were performed for sensitivity cases developed in accordance with Requirement R4 Part 4.2. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R8

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R8.) Verify the steady state and transient stability analyses were completed in the Extreme Temperature Assessment, using the Contingencies identified in Requirement R7. |
|  | (R8.) Verify the documented assumptions and results of the steady state and transient analyses in the Extreme Temperature Assessment. |
|  | (Part 8.1.) Verify the steady state and transient analyses were performed for the benchmark planning cases developed in accordance with Requirement R4 Part 4.1. |
|  | (Part 8.2.) Verify the steady state and transient analyses were performed for the sensitivity cases developed in accordance with Requirement R4 Part 4.2. |
| **Note to Auditor:** | |

**Auditor Notes:**

R9 Supporting Evidence and Documentation

**R9.** Each responsible entity, as identified in Requirement R1, shall develop a Corrective Action Plan(s) when the analysis of a benchmark planning case, in accordance with Requirement R8 Part 8.1, indicates its portion of the Bulk Electric System is unable to meet performance requirements for category P0 or P1 in Table 1. For each Corrective Action Plan, the responsible entity shall:

**9.1.** Document alternative(s) considered when Non-Consequential Load Loss is utilized as an element of a Corrective Action Plan for a Table 1 P1 Contingency.

**9.2.** Be permitted to utilize Non-Consequential Load Loss as an interim solution, which normally is not permitted for category P0 in Table 1 for situations that are beyond the control of the Planning Coordinator or Transmission Planner that prevent the implementation of a Corrective Action Plan in the required timeframe, provided that the responsible entity documents the situation causing the problem, alternatives evaluated, and takes actions to resolve the situation.

**9.3.** Make its Corrective Action Plan available to, and solicit feedback from, applicable regulatory authorities or governing bodies responsible for retail electric service issues.

**9**.**4**. Be permitted to have revisions to the Corrective Action Plan in subsequent Extreme Temperature Assessments, provided that the planned Bulk Electric System shall continue to meet the performance requirements of Table 1.

**M9.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence, such as electronic or hard copies of documentation, of each Corrective Action Plan developed in accordance with Requirement R9 when the analysis of a benchmark planning case indicates its portion of the Bulk Electric System is unable to meet performance requirements for category P0 or P1 in Table 1. Evidence shall include documentation of correspondence with applicable regulatory authorities or governing bodies responsible for retail electric service issues and any revision history.

**Registered Entity Response (Required):**

**Question: Were any Corrective Action Plans developed when the analysis of a benchmark planning case, in accordance with Requirement R8 Part 8.1, indicated a portion of your Bulk Electric System was unable to meet performance requirements for category P0 or P1 in Table 1?** If Yes, provide a listing of the Corrective Action Plans, including the start date and if it is still effective.

Yes  No

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation of each Corrective Action Plan (CAP) developed when the analysis of a benchmark planning case, in accordance with Requirement R8 Part 8.1, indicated a portion of the Bulk Electric System was unable to meet performance requirements for category P0 or P1 in Table 1. |
| Documentation that each CAP developed in accordance with Requirement R9 addresses the following parts: |
| Documented alternative(s) considered when Non-Consequential Load Loss is utilized as an element of a Corrective Action Plan for a Table 1 P1 Contingency. |
| Permit the utilization of Non-Consequential Load Loss as an interim solution, which normally is not permitted for category P0 in Table 1 for situations that are beyond the control of the Planning Coordinator or Transmission Planner that prevent the implementation of a Corrective Action Plan in the required timeframe, provided that the responsible entity documents the situation causing the problem, alternatives evaluated, and takes actions to resolve the situation. |
| Ensuring the Corrective Action Plan is made available to, and solicit feedback from, applicable regulatory authorities or governing bodies responsible for retail electric service issues |
| Permit revisions to the Corrective Action Plan in subsequent Extreme Temperature Assessments, provided that the planned Bulk Electric System shall continue to meet the performance requirements of Table 1. |
| Documentation reflecting no Corrective Action Plan was needed (as applicable when the performance is met without the need for a Corrective Action Plan.) |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R9

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R9.) Verify a CAP was developed when analysis of a benchmark planning case, in accordance with Requirement R8 Part 8.1, indicated the entity’s portion of the Bulk Electric System was unable to meet performance requirements for Category P0 and P1. |
|  | (Part 9.1.) Verify each CAP documents the alternative(s) considered when Non-Consequential Load Loss was utilized for a Table 1 P1 Contingency. |
|  | (Part 9.2.) If Non-Consequential Load Loss was utilized by the entity as an interim solution, verify the situation(s) that was beyond the control of the Planning Coordinator or Transmission Planner. |
|  | (Part 9.2.) If Non-Consequential Load Loss was utilized by the entity as an interim solution, verify the entity documented the situation causing the problem, evaluated alternatives and took action to resolve the situation. |
|  | (Part 9.3.) Verify each CAP was made available to, and solicited feedback from, applicable regulatory authorities or governing bodies responsible for retail electric service issues. |
|  | (Part 9.4.) Verify any revisions to CAP(s) in subsequent Extreme Temperature Assessments and verify that the planned BES meets the performance requirements of Table 1. |
| **Note to Auditor:** Part 9.4 permits the responsible entities to revise or update the Corrective Action Plan that was considered and approved in the previous Extreme Temperature Assessment. This allows responsible entities to incorporate approved mitigation measures from other planning assessments, such as annual transmission reliability assessment under TPL-001-5.1 or subsequent related planning standard, or from other planning assessments for policy driven or economic needs. The revised or updated Corrective Action Plan associated with TPL-008-1 can be documented as an addendum to the previous Extreme Temperature Assessment’s Corrective Action Plan | |

**Auditor Notes:**

R10 Supporting Evidence and Documentation

**R10.** Each responsible entity, as identified in Requirement R1, shall evaluate and document possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) if analyses conclude there could be instability, uncontrolled separation, or Cascading within an Interconnection, for the following:

**10.1.** Table 1 P7 Contingencies in benchmark planning cases analyzed in accordance with Requirement R8 Part 8.1.

**10.2.** Categories P0, P1, and P7 in Table 1 in sensitivity cases analyzed in accordance with Requirement R8 Part 8.2.

**M10.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence such as electronic or hard copies of documentation that it evaluated and documented possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts when the analyses conclude there could be instability, uncontrolled separation, or Cascading within an Interconnection for Table 1 P7 Contingencies in benchmark planning cases or categories P0, P1, or P7 in Table 1 in sensitivity cases.

**Registered Entity Response (Required):**

**Question: Did the analyses of any benchmark planning cases or sensitivity cases as described in Requirement R10. Part 10.1. and Part 10.2. conclude there could be instability, uncontrolled separation, or Cascading within an Interconnection?** If Yes, provide a listing of theses analyses.

Yes  No

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documented evaluation and possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) if analyses concluded there could be instability, uncontrolled separation, or Cascading within an Interconnection for Table 1 P7 Contingencies in benchmark planning cases analyzed in accordance with Requirement R8 Part 8.1 |
| Documented evaluation and possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) if analyses concluded there could be instability, uncontrolled separation, or Cascading within an Interconnection for Categories P0, P1, and P7 in Table 1 in sensitivity cases analyzed in accordance with Requirement R8 Part 8.2. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R10

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (Part 10.1.) Verify the documented evaluation and possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) if analyses concluded there could be instability, uncontrolled separation, or Cascading within an Interconnection for Table 1 P7 Contingencies in benchmark planning cases analyzed in accordance with Requirement R8 Part 8.1 |
|  | (Part 10.2.) Verify the documented evaluation and possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) if analyses concluded there could be instability, uncontrolled separation, or Cascading within an Interconnection for Categories P0, P1, and P7 in Table 1 in sensitivity cases analyzed in accordance with Requirement R8 Part 8.2. |
| **Note to Auditor:** | |

**Auditor Notes:**

R11 Supporting Evidence and Documentation

**R11.** Each responsible entity, as identified in Requirement R1, shall provide its Extreme Temperature Assessment results within 60 calendar days of a request to any functional entity that has a reliability related need and submits a written request for the information.

**M11.** Each responsible entity, as identified in Requirement R1, shall provide dated evidence, such as email notices, documentation of updated web pages, or postal receipts showing recipient, that it provided its Extreme Temperature Assessment to any functional entity who has a reliability need within 60 calendar days of a written request.

**Registered Entity Response (Required):**

**Question: Was a written request for the Extreme Temperature Assessment received from any functional entity who had a reliability need?** If Yes, provide a listing of the date of request and associated functional entity making the request.

Yes  No

[Note: A separate spreadsheet or other document may be used. If so, provide the document reference below.]

**Compliance Narrative:**

Provide a brief explanation, in your own words, of how you comply with this Requirement. References to supplied evidence, including links to the appropriate page, are recommended.

Evidence Requestedi:

|  |
| --- |
| **Provide the following evidence, or other evidence to demonstrate compliance.** |
| Documentation that the Extreme Temperature Assessment was provided within 60 calendar days of a written request to any requesting functional entity who had a reliability need. |

Registered Entity Evidence (Required):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The following information is requested for each document submitted as evidence. Also, evidence submitted should be highlighted and bookmarked, as appropriate, to identify the exact location where evidence of compliance may be found.** | | | | | |
| **File Name** | **Document Title** | **Revision or Version** | **Document Date** | **Relevant Page(s) or Section(s)** | **Description of Applicability of Document** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Audit Team Evidence Reviewed (This section to be completed by the Compliance Enforcement Authority):

|  |
| --- |
|  |
|  |
|  |

Compliance Assessment Approach Specific to TPL-008-1, R11

***This section to be completed by the Compliance Enforcement Authority***

|  |  |
| --- | --- |
|  | (R11) Verify that the Extreme Temperature Assessment results were provided to any written request, as applicable, from any functional entity that has a reliability related need within 60 calendar days. |
| **Note to Auditor:** | |

**Auditor Notes:**

Additional Information:

[Implementation Timeline](https://www.nerc.com/pa/Stand/Project202307ModtoTPL00151TransSystPlanPerfReqExWe/2023-07_TPL-008-1_Implementation_Plan_Draft3_100724.pdf)

* Requirement 1 – Effective Date of April 1, 2026
* Requirements 2, 3, 4, 5, and 6 - Effective Date of April 1, 2028
* Requirements 7, 8, 9, 10, and 11 – Effective Date of April 1, 2030

Reliability Standard



The full text of TPL-008-1 may be found on the NERC Web Site (www.nerc.com) under “Program Areas & Departments”, “Reliability Standards.”

In addition to the Reliability Standard, there is an applicable Implementation Plan available on the NERC Web Site.

In addition to the Reliability Standard, there is background information available on the NERC Web Site.

Capitalized terms in the Reliability Standard refer to terms in the NERC Glossary, which may be found on the NERC Web Site.

Sampling Methodology

Sampling is essential for auditing compliance with NERC Reliability Standards since it is not always possible

or practical to test 100% of either the equipment, documentation, or both, associated with the full suite of enforceable standards. The Sampling Methodology Guidelines and Criteria (see NERC website), or sample guidelines provided by the Electric Reliability Organization help to establish a minimum sample set for monitoring and enforcement uses in audits of NERC Reliability Standards.

Regulatory Language

FERC approved Reliability Standard TPL-008-1 in a letter order issued on February 20, 2025 in Docket No. RD25-4-000. *See Letter order granting North American Electric Reliability Corporation's 12/17/2024 filing of a petition seeking approval of proposed Reliability Standard TPL-008-1 under RD25-4*, 190 FERC ¶ 61,099 (2025).

Revision History for RSAW

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Reviewers** | **Revision Description** |
| 1 | 9/1/2025 | NERC Compliance Assurance, Operations and Planning Compliance Task Force | New Document |

1. NERC developed this Reliability Standard Audit Worksheet (RSAW) language in order to facilitate NERC’s and the Regional Entities’ assessment of a registered entity’s compliance with this Reliability Standard. The NERC RSAW language is written to specific versions of each NERC Reliability Standard. Entities using this RSAW should choose the version of the RSAW applicable to the Reliability Standard being assessed. While the information included in this RSAW provides some of the methodology that NERC has elected to use to assess compliance with the requirements of the Reliability Standard, this document should not be treated as a substitute for the Reliability Standard or viewed as additional Reliability Standard requirements. In all cases, the Regional Entity should rely on the language contained in the Reliability Standard itself, and not on the language contained in this RSAW, to determine compliance with the Reliability Standard. NERC’s Reliability Standards can be found on NERC’s website. Additionally, NERC Reliability Standards are updated frequently, and this RSAW may not necessarily be updated with the same frequency. Therefore, it is imperative that entities treat this RSAW as a reference document only, and not as a substitute or replacement for the Reliability Standard. It is the responsibility of the registered entity to verify its compliance with the latest approved version of the Reliability Standards, by the applicable governmental authority, relevant to its registration status.

   The RSAW may provide a non-exclusive list, for informational purposes only, of examples of the types of evidence a registered entity may produce or may be asked to produce to demonstrate compliance with the Reliability Standard. A registered entity’s adherence to the examples contained within this RSAW does not necessarily constitute compliance with the applicable Reliability Standard, and NERC and the Regional Entity using this RSAW reserve the right to request additional evidence from the registered entity that is not included in this RSAW. This RSAW may include excerpts from FERC Orders and other regulatory references which are provided for ease of reference only, and this document does not necessarily include all applicable Order provisions. In the event of a discrepancy between FERC Orders, and the language included in this document, FERC Orders shall prevail. [↑](#footnote-ref-1)
2. Compliance Assessment Date(s): The date(s) the actual compliance assessment (on-site audit, off-site spot check, etc.) occurs. [↑](#footnote-ref-2)
3. Items in the Evidence Requested section are suggested evidence that may, but will not necessarily, demonstrate compliance. These items are not mandatory and other forms and types of evidence may be submitted at the entity’s discretion. [↑](#endnote-ref-1)