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| PGRR Number | [117](https://www.ercot.com/mktrules/issues/PGRR117) | PGRR Title | Addition of Resiliency Assessment and Criteria to Reflect PUCT Rule Changes |

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| Date | October 11, 2024 |

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| Market Segment | Not applicable |

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| Comments |

ERCOT submits these comments to respond to Lower Colorado River Authority’s (LCRA’s) 9/23/24 comments and align the proposed Planning Guide language with the Planning Working Group’s (PLWG’s) 9/24/24 discussion. These comments modify:

1. Paragraph (2) of Section 3.1.1.6, Grid Reliability and Resiliency Assessment (GRRA). ERCOT agrees with the clarification from LCRA’s comments referencing the current Regional Transmission Plan for the study case baselines. However, the reference to coincident load values should be maintained because this more appropriately reflects load conditions during system-wide extreme weather conditions. Non-coincident peak load is typically used when evaluating a local area rather than the ERCOT System. Furthermore, these comments add that “The study case prepared will be adjusted to have sufficient power supply to meet the demand” because the power flow case cannot solve unless there is sufficient generation. Inclusion of this language ensures that the Grid Reliability and Resiliency Assessment (GRRA) can be completed for its intended purpose.
2. Paragraph (1)(b) of Section 4.1.2, Resiliency Criteria. ERCOT agrees with LCRA’s removal of the reference to “load shedding” because this accords with the Public Utility Commission of Texas’ (PUCT’s) Order in Project No. 53403, which states on page 39, the rule will refer to “outages” more broadly rather than just ordered load shed. ERCOT is replacing “load shedding” with “outages” to align the language with 16 Texas Administrative Code § 25.101(b)(3)(E)(ii) requirement that the assessment account for “the impact of potential outages caused by regional extreme weather scenarios on customers.” ERCOT’s comments also deletes LCRA’s insertion of “and duration” in paragraph (1)(b) since this language could lead to the incorrect interpretation that “impact” and “duration” are distinct, when in fact “duration” is one of several facets of “impact.”

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| Revised Proposed Guide Language |

## 2.2 ACRONYMS AND ABBREVIATIONS

**CY** Current Year

**FIS** Full Interconnection Study

**FY** Future Year

**GIC** Geomagnetically-Induced Current

**GIM** Generator Interconnection or Modification

**GINR** Generation Interconnection or Change Request

**GMD** Geomagnetic Disturbance

**GRRA** Grid Reliability and Resiliency Assessment

**LTSA** Long-Term System Assessment

**RIOO** Resource Integration and Ongoing Operations

**SSR** Subsynchronous Resonance

**TCEQ** Texas Commission on Environmental Quality

**3.1.1.6 Grid Reliability and Resiliency Assessment (GRRA)**

(1) ERCOT shall perform the Grid Reliability and Resiliency Assessment (GRRA) in coordination with the Regional Planning Group (RPG) on a biennial basis in even-numbered years to assess the reliability and resiliency of the ERCOT System in extreme weather scenarios. The study shall:

(a) Consider the impact of different levels of thermal and renewable generation availability;

(b) Identify areas of the ERCOT Region that face significant grid reliability and resiliency issues, taking into account the impact of potential Outages caused by regional extreme weather scenarios on Customers; and

(c) Identify transmission upgrades that are expected to increase the reliability or resiliency of the ERCOT System in extreme weather scenarios based on the criteria established in Section 4.1.2, Resiliency Criteria.

(2) Extreme weather scenarios shall be selected for one or more study cases. The study cases prepared will be adjusted to have sufficient power supply to meet the demand. The study cases shall be based on the current Regional Transmission Plan study cases, utilizing coincident load values, and may include scenarios that vary one or more of the following modeling assumptions:

(a) Different patterns of generation;

(b) Extreme peak load;

(c) Multiple Transmission Element Outages; and/or

(d) Multiple Generation Resource Outages.

(3) Under the extreme weather study scenarios described in paragraph (2) above, the post-contingency performance of the ERCOT System shall be evaluated for the following contingency events:

(a) Categories P0, P1, and P2.1 as defined in NERC Reliability Standard TPL-001; and

(b) Common tower outages as defined in Section 4.1.1.1, Planning Assumptions.

4.1 Introduction

(1) ERCOT employs reliability, economic, and resiliency criteria in evaluating the need for transmission system improvements. The economic criteria are included in Protocol Section 3.11.2, Planning Criteria. This Planning Guide provides the reliability and resiliency criteria.

(2) The ERCOT System consists of those generation and Transmission Facilities (60 kV and higher voltages) that are controlled by individual Market Participants and that function as part of an integrated and coordinated system.

(3) To maintain reliable operation of the ERCOT System, it is necessary that all stakeholders observe and subscribe to certain minimum planning criteria. The criteria set forth in this Section 4.1 constitute the aforementioned minimum planning criteria. Tests outlined herein shall be performed to determine conformance to these minimum criteria; however, ERCOT recognizes that events more severe than those outlined in these criteria could cause grid separation and other tests may also be performed.

(4) The complexity and uncertainty inherent in the planning and operation of the ERCOT System make exhaustive studies impracticable; therefore, to gain maximum benefit from the limited number of tests performed, the selection of the specific tests and the frequency of their performance will be made solely upon the basis of the expected value of the reliability information obtainable from the test.

(5) ERCOT shall perform steady-state, short circuit, and dynamic analyses appropriate to ensure the reliability of the ERCOT System and identify appropriate solutions.

(6) Each Transmission Service Provider (TSP) will perform steady-state, short circuit, and dynamic analyses appropriate to ensure the reliability of its portion of the ERCOT System and implement appropriate solutions to meet the reliability performance criteria in this Section 4.1.

(7) The base cases created by the Steady-State Working Group (SSWG) and System Protection Working Group (SPWG) are available for use by Market Participants.

(8) If a TSP has its own planning criteria in addition to those defined in this Planning Guide, the TSP shall provide documentation of those criteria to ERCOT. ERCOT shall post the documentation on the Market Information System (MIS) Secure Area. The TSP shall notify ERCOT of any changes to their planning criteria and provide revised documentation within 30 days of such change.

4.1.2 Resiliency Criteria

(1) As part of the resiliency analysis described in Planning Guide Section 3.1.1.6, Grid Reliability and Resiliency Assessment (GRRA), ERCOT shall identify those transmission upgrades that are necessary to:

(a) Prevent cascading, instability, or uncontrolled islanding; and/or

(b) Reduce the impact of outages on customers.