



PGRR 122 Reliability Performance Criteria for Loss of Load – ERCOT Update and Discussion

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Grid Stability Analysis

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Background: Large Load Loss Risks

- **Grid Risk**
 - **Consequential Load Loss:** Load no longer served due to protection system isolating a fault.
 - **Non-Consequential Load Loss:** Load loss due to fault-related voltage excursion.
- **Key Stability Concern**
 - Significant simultaneous load loss impacts grid frequency stability and can trigger Interconnection Reliability Operating Limits (IROLs).
 - IROLs raise operational complexity and grid risk, requiring ERCOT to impose operational constraints to maintain system stability.

4 IROLs are currently under review and may be created by 2026. More IROLs could be required as Large Computational Loads (LCLs) grow, unless mitigated.

Mitigations: Consequential & Non-Consequential Load Loss

PGRR115 — Consequential Load Loss

Approved May 2025.

PG 9.2.5(3) requirement: Projects with LLIS submission on or after June 1, 2025, must not have an interconnection configuration where any P1 or P7 contingency causes more than **1,000 MW** of consequential load loss.

Exemptions: Existing LLs and projects with LLIS before June 1, 2025 are excluded.

NOGRR282 — Non-Consequential Load Loss

Proposed ride-through requirement **for Large Computational Loads (LCLs)** to significantly reduce non-consequential load loss.

Expected benefit: Reduces non-sequential loss from LCLs that comply with ride-through requirements.

Exemptions: Not retroactive. Most existing LCLs and near-term planned LCLs are excluded.

Large Loads and LCLs that are exempted from PG9.2.5(3) or NOGRR282 could impose the load loss risk that must be mitigated through planning, interconnection, and operations.

ERCOT Assessment

- Stability Threshold: **3,200 MW** maximum load loss before frequency instability risk.
- Mitigation Options
 - Transmission Solutions: transmission options may help but not fully mitigate the risks. For most tested events, transmission options will not be an effective option to mitigate the risk of loss of load due to lack of voltage ride-through capability.
 - Fast Frequency Response Down: FFR Down, as a potential new Ancillary Service, would not be effective in mitigating the risk.

ERCOT's Comments:

Create a new Planning Guide Section 4.1.1.9, Maximum Load Loss Criteria

3,200 MW

Maximum allowable total load loss

APPLIES TO

- P1, P2, P4, P5, P7 — Single contingency events per NERC Reliability Standard
- P3-type — Prior facility outage + manual adjustments + subsequent contingency

Note: Load loss during the pre-contingency unavailability (prior to manual system adjustments) is excluded from the 3,200 MW limit.

RESOLUTION PATHWAY

When 3,200 MW threshold is exceeded:

1 Introduce an additional planning measure

ERCOT and TSPs need to evaluate transmission solutions that can resolve the performance deficiency, and an estimated capital cost is less than 200 millions

2 Large Load interconnection

May limit the Large Load allocation in the interconnection study if ERCOT or the TSP doesn't identify a Transmission solutions to meet the criteria

3 Operational mitigation

Apply operational mechanisms (e.g., IROL/real-time curtailment)

Next Step

- PGRR 122 is pending at ROS and has been sent to PLWG and DWG.
- ERCOT will submit comments soon and work with PLWG and DWG on the feedback.