2024 Grid Reliability and Resiliency Assessment Scope

ERCOT
Regional Transmission Planning

June 2024

Introduction

- SB1281 and P.U.C. SUBST.R. 25.101 mandate ERCOT to conduct a biennial Grid Reliability and Resiliency Assessment
  - Assess extreme weather scenarios
  - Consider different levels of thermal and renewable generation availability
  - Account for potential outages caused by extreme weather

Scenarios

- Two extreme weather scenarios will be included in the 2024 Grid Reliability and Resiliency Assessment
  - Winter extreme weather scenario
  - Summer hurricane scenario

Study Assumptions – Start Case

- 2023 RTP final 2029 summer case topology will be used as the start case
- The start case will be updated to
  - Add all generators that have met Planning Guide Section 6.9(1) requirements
  - Add generators that haven't met 6.9(1) requirements yet, but
    - Have signed the Interconnection Agreement
    - Are dispatchable Generation Resources without a signed Interconnection Agreement that have either completed or started the Full Interconnection Study (FIS)
  - Add recently approved RPG projects

Study Assumptions – Summer Hurricane Scenario

- The 2029 summer coincident peak load forecast will be used
- Equipment damage information based on the 2024 Argonne National Lab's Hurricane Impact Study worst case scenario results prepared for ERCOT will be incorporated

Study Assumptions – Winter Extreme Weather Scenario

- The 2029 coincident peak load forecast based on the 2021 weather year condition will be used as the base load forecast
- The load forecast will be further adjusted with the IHS load and large load incorporated in the 2023 RTP
- Bus level load will be adjusted to reflect the winter peak load profiles
- Winter ratings will be applied to transmission and generation as appropriate
- Capacity loss or reduction related to the winter extreme weather condition will be obtained through historical data analysis

Study Approach and Resiliency Criteria

- The study cases will include adjustments to balance generation and load
- Steady state analysis will be performed for the following planning events
  - P0, P1, P2-1, P7
- Resiliency Criteria:
  - Identify transmission projects that may
    - Prevent Cascading, instability or uncontrolled islanding
    - Reduce the impact of non-consequential Load loss
  - A Revision Request for this Resiliency Criteria is currently being developed

Questions and Comments?

Tyler.Long@ercot.com
Mingwei.Chen@ercot.com