



2026 Grid Reliability and Resiliency Assessment

ERCOT
Transmission Strategy

June 17, 2026

Outline:

- Reviewing the Study Scope
- Reviewing the Assumptions of the Study

Introduction

ERCOT performs the Grid Reliability and Resiliency Assessment (GRRRA) on a biennial basis using the resiliency criteria defined in the Planning Guide Section 4.1.2. The study will:

- Assess extreme weather scenarios
- Consider different levels of thermal and renewable generation availability
- Account for potential outages caused by extreme weather
- Identify areas of the ERCOT Region facing significant reliability and resiliency issues
- Identify transmission upgrades that are expected to increase the reliability or resiliency of the ERCOT System

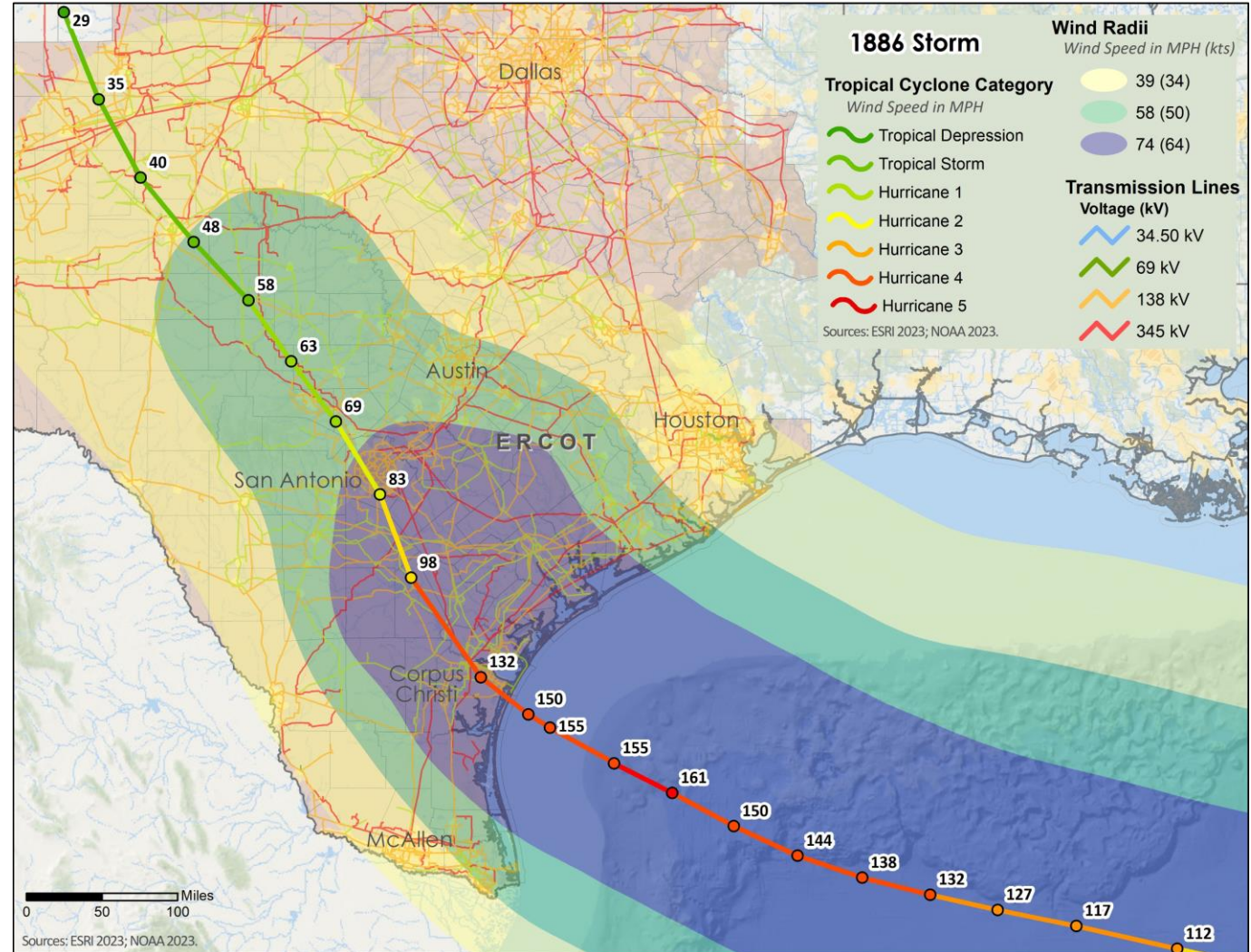
Extreme Weather Scenarios

- Two extreme weather scenarios will be included in the 2026 GRRRA:
 - Summer hurricane scenario impacting Corpus Christi area
 - Summer hurricane scenario impacting Lower Rio Grande Valley area
- Argonne National Lab's (ANL) 2024 Hurricane Study for ERCOT was used to determine weather-related equipment outages

Study Assumptions - Hurricane Scenario Details: Corpus Christi

Corpus Christi landfall storm studied by ANL

- Intensity at landfall: Category 5
- Maximum wind speed: 160 mph
- Storm surge: 22+ ft

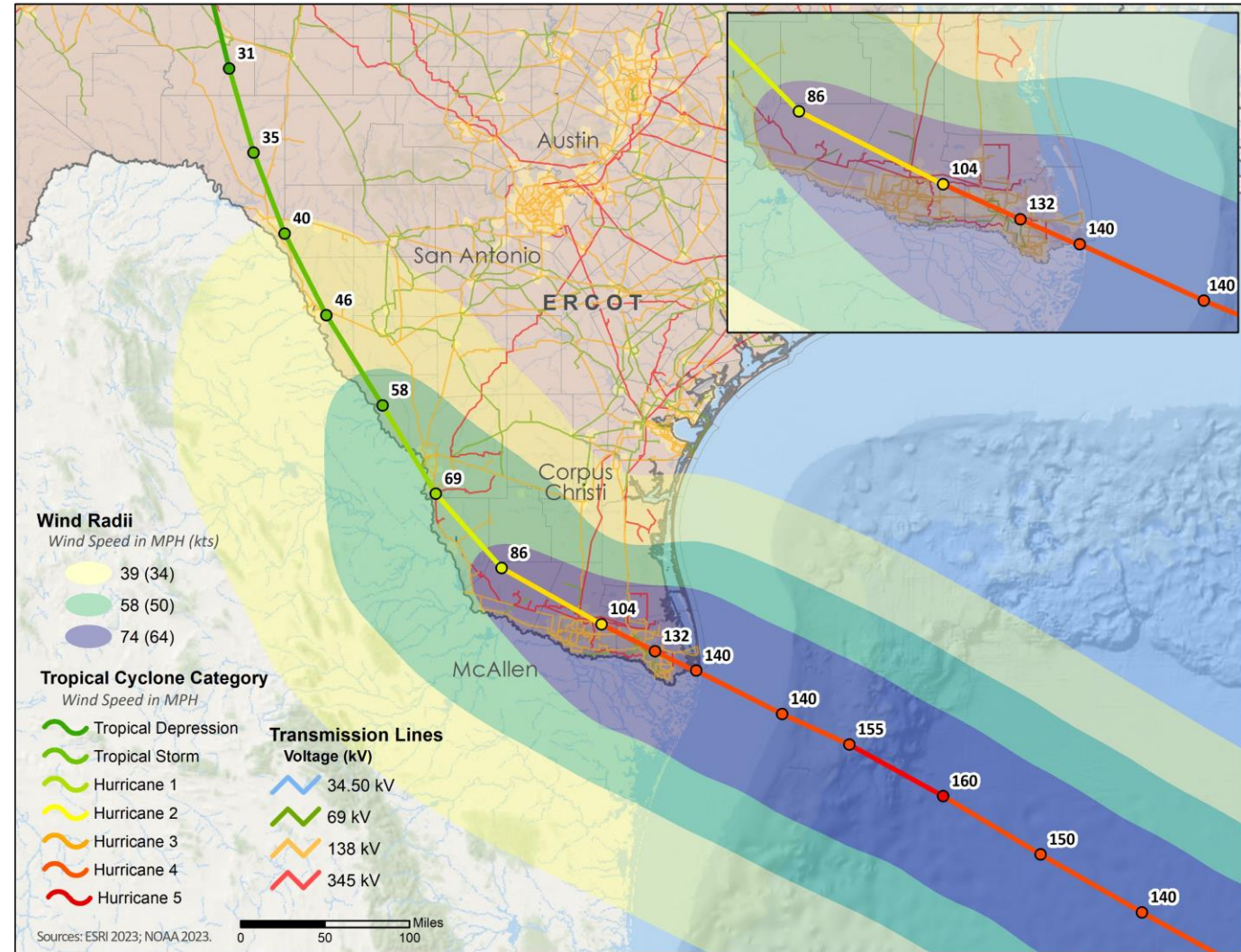


Source: [ANL Potential Severe Weather Event Study](#) presentation given at the August 2024 RPG meeting

Study Assumptions - Hurricane Scenario Details: Lower Rio Grande Valley

Lower Rio Grande valley landfall storm studied by ANL

- Intensity at landfall: Category 5
- Maximum wind speed: 160 mph
- Storm surge: 22+ ft



Source: [ANL Potential Severe Weather Event Study](#) presentation given at the August 2024 RPG meeting

Electric System Recovery Post Hurricane

- The equipment repair time depends on the severity and types of damages and may vary greatly.

Asset	Equipment	Slight/Minor	Moderate	Substantial / Severe	Complete
Generator	Gas Turbine	2 days	4 days	18 days	6 weeks
Generator	Coal Fired Power Plant	3 days	6 days	25 days	8 weeks
Generator	Wind Turbine Farm	1 – 5 days	3 – 15 days	5 – 7 weeks	2 – 6 months
Generator	Solar PV Farm	1 – 5 days	1 week	6 – 8 weeks	5 – 6 months
Generator	Nuclear Power Plant	1 – 2 weeks	2 – 3 weeks	3 – 4 weeks	> 1 year
Bus	Substation (Bus)	1 day	3 days	7 days	1 month

- Post hurricane load recovery may take a week or more potentially due to the repair time of the system damages.

Electric System Recovery Post Hurricane – Cont.

- The post hurricane recovery of the electric system may experience a few stages:
 - Most transmission and distribution damages have not been repaired yet and area load is low due to service interruption from damages and evacuation (a few days after hurricane).
 - Slight/minor and moderate damages have been repaired, and electric services are mostly restored (a week or more after hurricane).
 - All damages have been repaired, and the electric system is back to normal operation.
- The 2026 GRRRA will focus on the recovery period described in the second sub-bullet point above, which has the greatest number of simultaneous outages with the highest load. Outages will be applied on equipment reported as being substantially, severely, or completely damaged.

Study Assumptions: Start Case

2025 RTP final 2031 summer case topology will be used as the start case and the start case will be updated to

- Add all generators that have met Planning Guide Section 6.9(1) requirements
- Add recently approved RPG projects

Study Assumptions: Equipment Damage and Outages

- Number of Substantial/Severe/Complete transmission outages in ANL report at different voltage levels modeled in study:

Scenario	345 kV	138 kV	69 kV	345/138 kV Transformers	138/69 kV Transformers	Generator-Step-Up Transformers	Total
Corpus Christi	0	32	17	0	1	3	53
Lower Rio Grande Valley	6	22	1	4	1	1	35

- Amount of load and generation capacity lost due to damage:

Scenario	Load (MW)	Generation Capacity (MW)
Corpus Christi	346	2,888
Lower Rio Grande Valley	874	196

Study Assumptions: Load and Generation

- The load in the impacted areas will be updated to model load behavior during extreme events
- The load outside of the impacted areas will be maintained at the 2025 RTP level

Scenario	Coast (MW)	East (MW)	North (MW)	North Central (MW)	South (MW)	South Central (MW)	West (MW)	Far West (MW)	Total (MW)
Corpus Christi	36,177	3,269	12,526	39,605	14,323	27,969	7,766	19,867	161,502
Lower Rio Grande Valley	36,177	3,269	12,526	39,605	14,021	27,969	7,766	19,867	161,200

- Generation dispatch will be consistent with 2025 RTP assumptions:

	Solar	Wind-Coastal	Wind- Other	Wind-Panhandle	Battery
Capacity Factor	73%	55%	21%	28%	20.3%

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
 - Common tower outages as defined in Section 4.1.1.1, Planning Assumptions
- Resiliency Criteria:
 - Identify transmission projects that may
 - Prevent Cascading, instability or uncontrolled islanding
 - Reduce the impact of outages on customers

Next Steps

- ERCOT will perform the hurricane scenario studies for Corpus Christ and Lower Rio Grande Valley based on the resiliency criteria
- The study findings will be presented to the stakeholders in Q4 2026
- The GRRRA final report will be published by Dec 2026

Questions/Comments?

Kaveh.Dehghanpour@ercot.com

Ping.Yan@ercot.com

Learn More

www.ercot.com

Download ERCOT Mobile App



Connect With Us



facebook.com/ERCOTISO



x.com/ercot_iso



linkedin.com/company/ercot



instagram.com/ercot_iso