

# **Euclid 765-kV Substation and Transmission Line Addition Project**

**LCRA Transmission Services Corporation  
CenterPoint Energy Houston Electric, LLC**

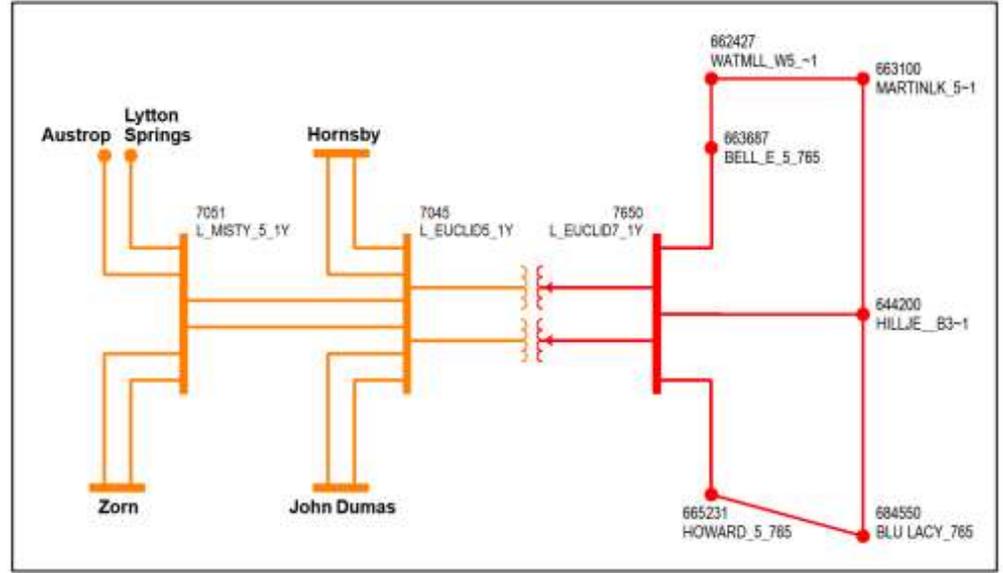
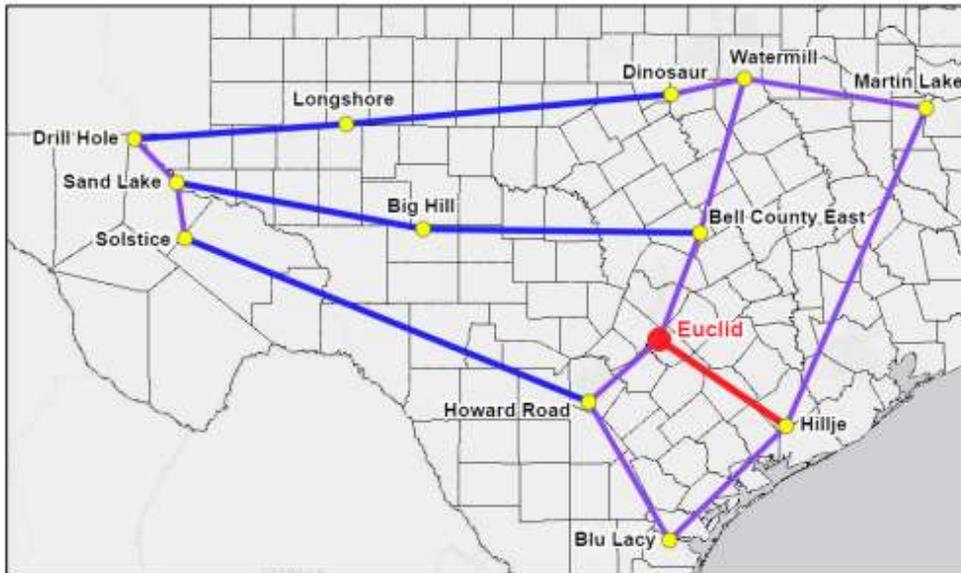
**ERCOT Regional Planning Group  
March 17, 2026**



# Project Background

- 2023, 2024, and 2025 Regional Transmission Plans identified the need for additional import capability into Central Texas
- ERCOT RTP team identified the need for Euclid 765-kV Substation and Euclid–Hillje 765-kV transmission line in the 2025 RTP – 765-kV Update at the November 2025 RPG meeting
- Recommended project in the 2025 RTP published by ERCOT in December 2025 (2025-SC02)
- LCRA TSC and CEHE jointly submitted this Tier 1 project to the RPG on Jan 29, 2026
- Recommended project completion date is June 30, 2031

# Project Map and Schematic Diagram



# Studies and Analysis

- The steady-state study was performed by ERCOT in the 2025 RTP
- LCRA TSC and CEHE conducted stability and short circuit studies to complement ERCOT's RTP studies
- Stability studies indicated that the recommended project will not have an adverse impact on the dynamic stability of the transmission system in the study area
- Short circuit analysis indicated the need for 80-kA interrupting capability for circuit breakers at Euclid, Hillje and Misty 345-kV substations

# Project Scope: LCRA TSC

- Install a new 765-kV yard adjacent to the Euclid 345-kV station on the planned Bell County East–Howard Road 765-kV transmission line
- Install a new 765-kV single-circuit transmission line on new right-of-way from Euclid to a point-of-interconnection with CEHE, approximately 65.7 miles, using conductor with a minimum normal and emergency rating of 7,602 MVA
- At Euclid, install two 765/345-kV autotransformers with normal and emergency ratings of 2,403 & 2,772 MVA
- At Euclid, install 765-kV shunt reactors that are sufficient to ensure voltage remains within acceptable operating limits
- Install two new single-circuit 345-kV transmission lines from Euclid to Misty, approximately 2.0 miles, using bundled 1926 ACSS/TW Cumberland conductor (2,988 MVA normal and emergency rating)
- At Euclid, cut-in the T511 John Dumas–Hornsby 345-kV transmission circuit
- At Euclid and Misty, all 345-kV substation equipment will have a 5,000 A minimum rating and new 345-kV circuit breakers will have a minimum 80 kAIC

# Project Scope: CEHE

- Install a new 765-kV transmission line on a new right-of-way from Hillje to a point-of-interconnection with LCRA TSC, approximately 65.7 miles, using conductor with a minimum normal and emergency rating of 7,602 MVA
- At Hillje, install new or modify existing shunt reactors as needed to ensure voltage remains within acceptable operating limits (CEHE is currently planning to install four 300 MVAR shunt reactors as part of the original STEP Eastern Backbone )
- At Hillje, upgrade 345-kV Hillje substation equipment to have a minimum 80 kAIC

# Project cost estimates

Scope	TSP	Cost
Euclid 765-kV Substation Addition	LCRA TSC	\$545,700,000
Hillje 765-kV and 345-kV Substation Upgrades	CEHE	\$65,400,000
Euclid 345-kV Substation Upgrade	LCRA TSC	\$66,400,000
Misty 345-kV Substation Upgrade	LCRA TSC	\$17,500,000
Euclid – Hillje 765-kV Transmission Line Addition	LCRA TSC, CEHE	\$1,119,528,000
Euclid – Misty 345-kV Transmission Line Addition (Ckt 1)	LCRA TSC	\$8,000,000
Euclid – Misty 345-kV Transmission Line Addition (Ckt 2)	LCRA TSC	\$8,000,000
<b>Euclid 765-kV Substation and Transmission Line Addition Project</b>		<b>\$1,830,528,000</b>

- Cost estimates are based on the latest available data and are subject to revision as additional factors are identified
- The straight-line distance from Euclid to Hillje is 109.5 miles. The line lengths above assume a standard 20% route adder, or 131.4 total miles, given the uncertainty related to line routing at this stage

# Project Benefits

- Enhance the benefits of the ERCOT 765-kV core plan
- Ensure transmission system reliability for native & large load customers in Central Texas, thereby supporting population growth and economic development in the region
- Increase the load-serving capability and voltage performance of the transmission system in Central Texas
- Reduce the need to upgrade heavily loaded 345-kV import paths from the Coast to South Central weather zones
- Mitigate import constraints from the Coast and North Central weather zones to the South-Central weather zone, thereby increasing generation deliverability for generation pockets near Hillje and Bell County East
- Increase system-wide 765-kV transmission and 765/345-kV transformation utilization
- Improve outage flexibility in the 765-kV and 345-kV systems

# Summary

- LCRA TSC and CEHE jointly submitted the Tier 1 Euclid 765-kV Substation and Transmission Line Addition project
- Project will require an amendment to the Certificate of Convenience and Necessity (CCN)
- Recommended project completion date is June 30, 2031
- Given the robust alternatives analysis performed by ERCOT in the 2025 RTP and based on the technical merit and urgency of the recommended project and its strategic importance to support growth in the LCRA TSC, CEHE, and ERCOT systems, an expedited RPG review is essential and appropriate

**Questions?**