LCRA Transmission Services Corporation (LCRA TSC) Storm Hardening Plan

PUCT 25.95

October 22, 2026

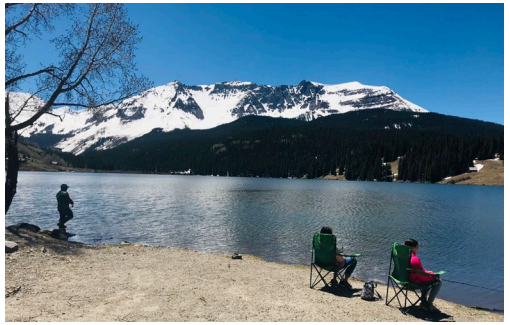
Ana Berryann, P.E.

- Director, Engineering at LCRA
- B.S. Aerospace Engineering, UT Austin
- 27 years experience in electric utility business
- Background focused on substation civil and structural design
- Blessed with an amazing family
- Loves dogs
- Loves the outdoors













LCRA TSC's Transmission System



Own and operate 5,100 circuit miles of high voltage transmission lines



Equipment installed in over 460 substations



Assets located in over 70 counties across Texas

LCRA TSC Storm Hardening Plan - Overview

Developed in adherence to PUCT 25.95

Originally published in 2011. Reviewed every 5 years and as necessary

Adherence with long-standing, industry-guided standards

Ensures cost-effective strategies in place to withstand Extreme Weather Conditions

Improvements identified result in capital projects

Basis for annual storm hardening summary

Tools available for assessment of damaged assets following severe weather

Established plans guide load restoration efforts for major or regional events

LCRA TSC Storm Hardening Plan

2011 Original Plan Key Objectives:

- Analyze transmission lines constructed prior to 2002 National Electric Safety Code (NESC)
- Focus on NESC wind loading requirements
- Transmission lines totaling 1,494 miles identified as needing storm hardening improvements
- Addressed deficiencies over a 10-year period
- Develop corrective action plans using industry-guided standards
- Completed effort in CY 2022



LCRA TSC Storm Hardening Plan

2022 Revision Key Objectives:

- Continue adherence with NESC and industry-related requirements
- Broaden set of facilities to include substations and telecommunications assets
- Consider other extreme weather events:
  - severe heat & cold
  - ice
  - precipitation
  - flooding



LCRA TSC Storm Hardening Plan

Storm Hardening Improvements

- ✓ Period between July 1, 2011 - June 30, 2023
- ✓ 46 capital projects
- ✓ $231M investment



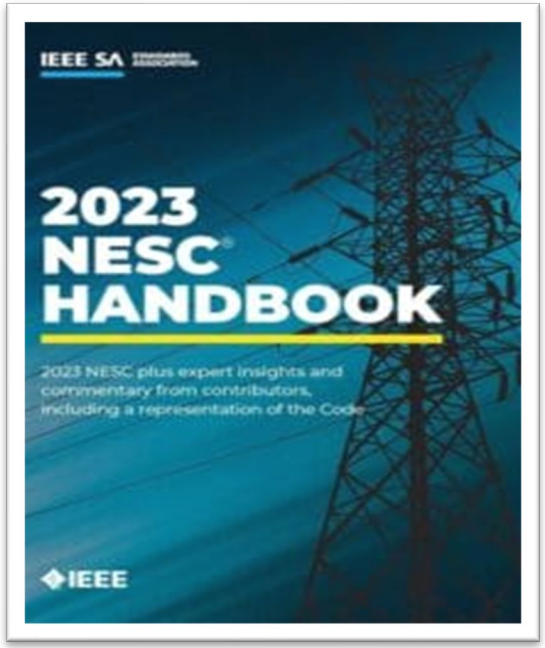
Typical Project Types

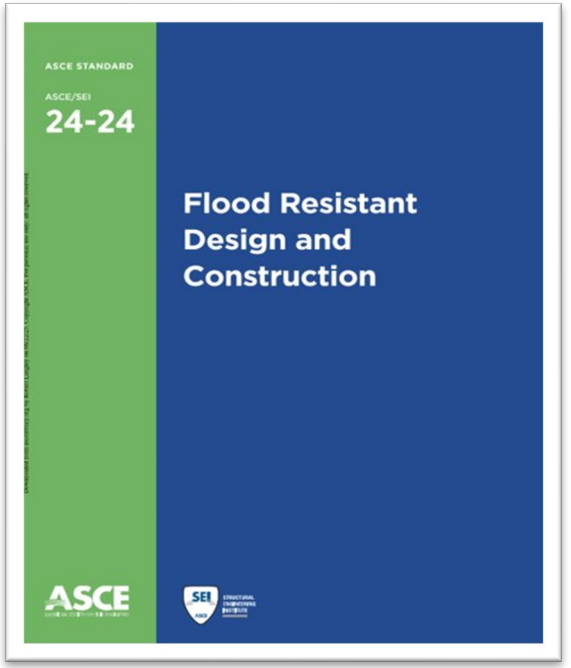
- ➢ Transmission Line Overhauls
- ➢ Transmission Line Storm Hardening (Wind Loading)
- ➢ Circuit Breaker Additions
- ➢ Containment Structures
- ➢ Flood Mitigation
- ➢ Lightning Protection
- ➢ Station Service
- ➢ Protective Relays
- ➢ Restoration
- ➢ Obsolete Equipment

LCRA TSC Storm Hardening Plan

Key agencies:

- ❑ National Electric Safety Code (NESC)
- ❑ American Society of Civil Engineers (ASCE)
- ❑ American Concrete Institute (ACI)
- ❑ American National Standard Institute (ANSI)
- ❑ American Institute of Steel Construction (AISC)
- ❑ American Society for Testing and Materials (ASTM)
- ❑ Institute of Electrical and Electronics Engineers (IEEE)
- ❑ Occupational Safety and Health Administration (OSHA)
- ❑ International Building Code (IBC)





LCRA TSC Storm Hardening Plan

Operational excellence achieved through:

- ✓ A defined diverse set of extreme weather events
- ✓ A defined diverse set of applicable industry standards and utility practices
- ✓ Taking into consideration relevant extreme weather experiences and weather data points
- ✓ Established processes for assessing and continuously enhancing the plan's effectiveness



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