



ERCOT Extra-High Voltage (EHV) Infrastructure Initiative

Introduction

ERCOT Transmission Planning

June 2024

Agenda

- Initiative drivers
- Technology considerations
- Next steps

Initiative Drivers

- Generation has been evolving
 - Fuel types and locations
- Load is now evolving
 - Size and locations
- Combined evolutions now require even more long-range power transfers across the system
 - Voltage levels above 345-kV will make these needed transfers more efficient

Technology Considerations

- 500-kV and 765-kV transmission levels are technology classes best suited for current system needs
 - Long-range power transfers are needed across entire system (i.e., “backbone” network)
 - More cost effective, and require less Right of Way, than 345-kV lines of equal MW capacity
- HVDC technology is less suitable for current needs
 - Better for selective lines as compliment to a backbone network
 - Long-Term West Texas Export Study report^[1] published in January 2022 highlights the high cost of technology
 - Fully internal HVDC lines would trigger market redesign which could potentially delay addressing reliability needs

Next Steps

- EHV options will be tested and evaluated as a part of the 2024 Regional Transmission Plan (RTP)
- Subsets of larger system options will be evaluated in the Permian Basin Reliability Plan Study
- Additional next steps, and their timelines, will be determined in cooperation with state regulators

Comments/Questions

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