PUBLIC

Denton Municipal Electric (DME) - Denton Area Transmission Improvements (26RPG005) – ERCOT Independent Review (EIR) Study Scope

Ben Richardson

Regional Planning Group (RPG) Meeting
April 13, 2026

Introduction

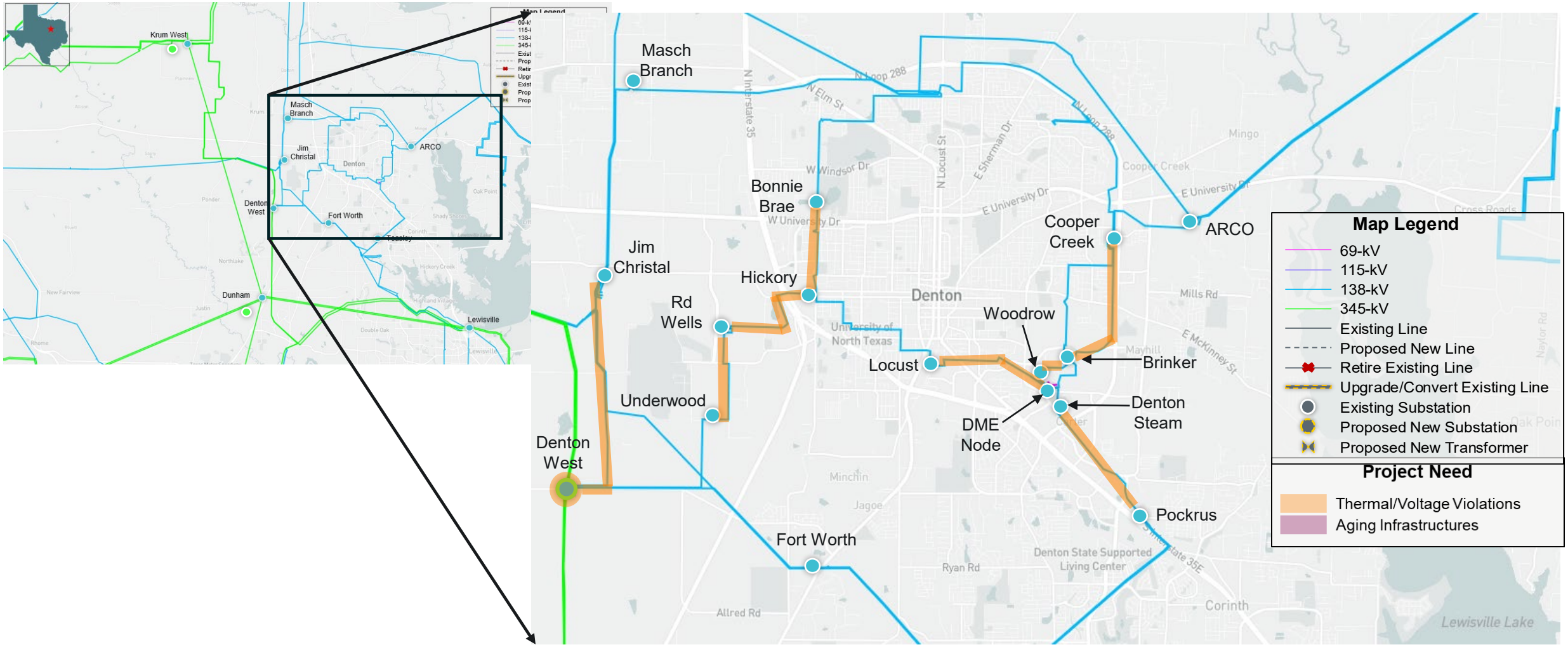
Denton Municipal Electric (DME) submitted the Denton Area Transmission Improvements Project (26RPG005) for Electric Reliability Council of Texas (ERCOT) for Reginal Planning Group (RPG) review in February 2026

- This is a Tier 1 project with an estimated cost of $222.4 million and will require a Certificate of Convenience and Necessity (CCN)
- Estimated in-service date (ISD) is Summer 2030
- Addresses post-contingency thermal overloads in the Denton area

This project is currently under ERCOT independent Review (EIR)

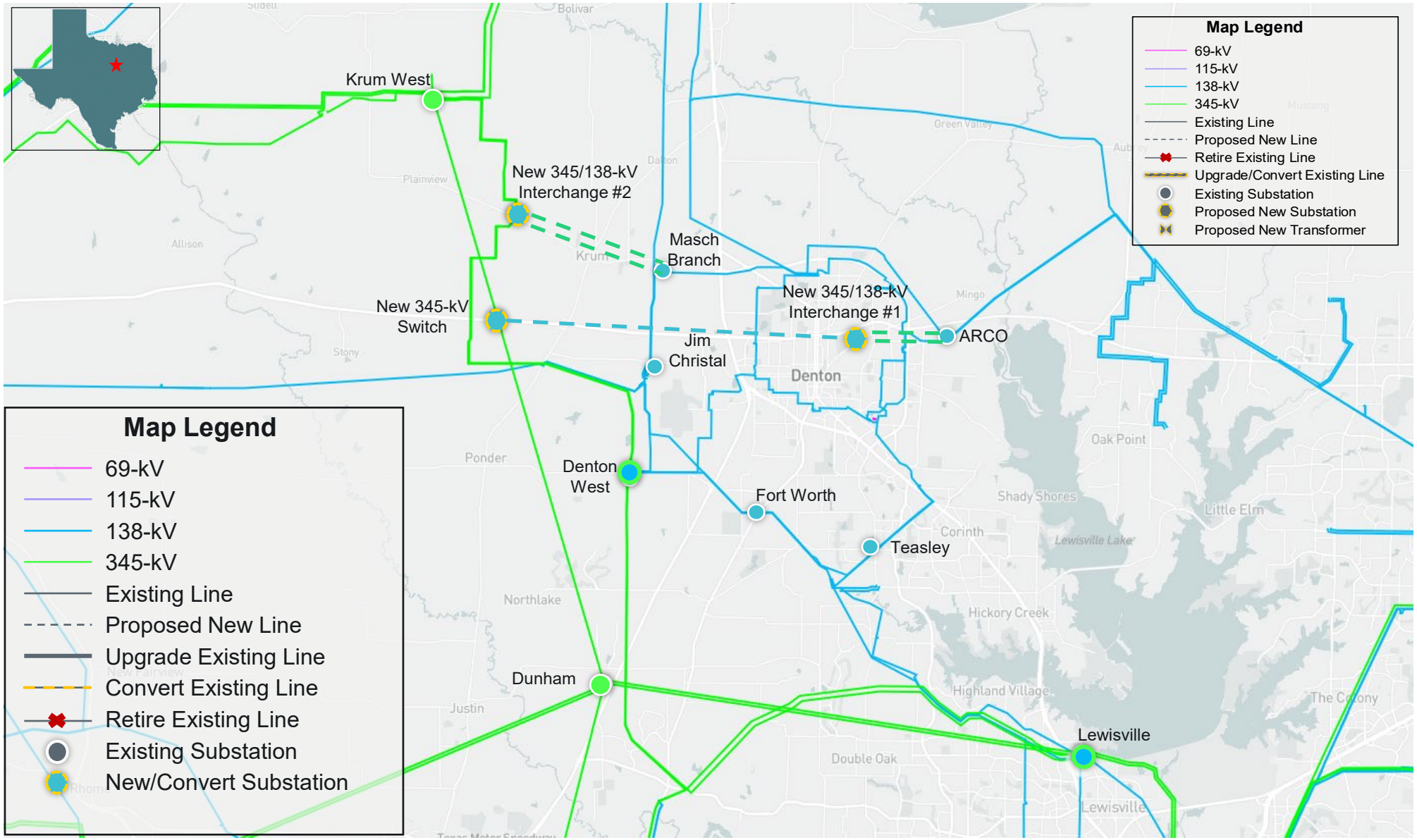
PUBLIC

Study Area Map with Project Needs Seen by DME



PUBLIC

Option 1 – Proposed Project



Option 1 – DME Proposed Project – (Cont.)

- New 345kV Switch inserted in the existing 345kV Krum West Switch (Bus# 1730) to Dunham Substation (Bus# 21851) circuit, using a breaker-and-half configuration with (5) 345kV breakers rated 5000A each.
- New 345kV Double Circuit Capable Transmission Line equipped with one circuit with normal and emergency ratings of at least 1480 MVA on new ROW, approximately 12.25 miles, from New 345kV Switch to New 345kV/138kV Interchange #1.
- New 345kV/138kV Interchange #1, with two 345kV/138kV autotransformers, with normal and emergency ratings of at least 700 MVA each, using a breaker-and-half configuration for 345kV and 138kV with (6) 345kV breakers rated 5000A each and (6) 138kV breakers rated 4000A each.
- New 138kV Double Circuit Transmission Line #1 from the new 345kV/138kV Interchange #1 to the existing 138kV Arco Substation (Bus #923), with normal and emergency ratings of at least 700 MVA per circuit, on new ROW, approximately 2.3 miles.
- Add Breaker and Half section to existing Arco Substation (Bus# 923) to accommodate New Double Circuit Transmission Line #1.

Option 1 – DME Proposed Project – (Cont.)

- New 345kV/138kV Interchange #2 inserted into the existing 345kV Krum West Switch (Bus# 1730) to Denton West Interchange (Bus# 988) circuit, with two 345kV/138kV autotransformers, with normal and emergency ratings of at least 700 MVA each, using a breaker-and-half configuration for 345kV and 138kV with (6) 345kV breakers rated 5000A each and (6) 138kV breakers rated 4000A each.
- New 138kV Double Circuit Transmission Line #2 from the new 345kV/138kV Interchange #2 to the existing 138kV Masch Branch Substation (Bus #934), with normal and emergency ratings of at least 700 MVA per circuit, on new ROW, approximately 5.25 miles.
- 138kV Breaker and 138kV line bay addition at Masch Branch to accommodate New 138kV Double Circuit Transmission Line #2.

Study Assumptions

Study Area

- Denton County considered for this study
- North Central Weather Zone electrically close to project location

Steady-State Base Case

- Final 2025 Regional Transmission Planning (RTP) 2030 summer peak load case, published on Market Information System (MIS) in December 2025, was updated to construct the study base case

Loads in study area

- Loads may be adjusted in the study area

Reserve

- Load outside of study weather zone(s) was adjusted to make up the reserve to be consistent with the 2025 RTP

Study Assumptions (continued)

Transmission Updates

- New transmission projects (listed in Appendix A1), based on the February 2026 Transmission Project and Information Tracking (TPIT) report, will be added to the base case
- Transmission projects (listed in Appendix A2) identified in the 2025 RTP in the study area that have not been approved by RPG will be removed

Generation Updates

- No new generation that met ERCOT Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before the June 2030 in the study area at the time of the study, but not already modeled in the RTP cases, will be added to the case based on February 2026 Generator Interconnection Status (GIS) report published in MIS in March 2026
- All generation will be dispatched consistent with the 2025 RTP methodology
- All recent retired/indefinitely mothballed units will be reviewed and opened (turned off), if not already reflected in the 2025 RTP Final cases

Contingencies & Criteria

Contingencies for Study Region

- NERC Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria
  - P0 (System Intact)
  - P1, P2-1, P7 (N-1 conditions)
  - P2-2, P2-3, P4, and P5 (EHV only)
  - P3-1: G-1+N-1 (G-1: list in Appendix B)
  - P6-2: X-1+N-1 (X-1: list in Appendix B)

Criteria

- Monitor all 60-kV and above busses, transmission lines, and transformers in the study region (excluding generator step-up transformers)
- Thermal
  - Use Rate A for normal conditions
  - Use Rate B for emergency conditions
- Voltage
  - Voltages exceeding their pre-contingency and post-contingency limits
  - Voltage deviations exceeding 8% on non-radial load buses

Study Procedure

Need Analysis

- The reliability analysis will be performed to identify the need to serve the projected area load using the study base case

Project Evaluation

- Project alternatives will be tested to satisfy the NERC and ERCOT reliability requirements
- ERCOT may also perform the following studies
  - Planned Maintenance Outage Evaluation
  - Long-Term Load-Serving Capability Assessment
- TSP(s) will provide Cost and Feasibility Assessment

Additional Analyses

- Generation Addition and Load Scaling Sensitivity Analyses
  - Planning Guide Section 3.1.3(4)
- Subsynchronous Resonance (SSO) Assessment
  - Nodal Protocol Section 3.22.1.3(2)
- Congestion Analysis
  - Congestion analysis may be performed based on the recommended transmission upgrades to ensure that the identified transmission upgrades do not result in new congestion within the study area

Deliverables and Next Step

Tentative Timelines

- Provide status updates at the future RPG meetings
- ERCOT recommendation in Q3 2026

Key Takeaway: ERCOT recommendation in Q3 2026

PUBLIC

Thank you!
Questions/Comments?

Ben.Richardson@ercot.com
Robert.Golen@ercot.com

Learn More

www.ercot.com

Download ERCOT Mobile App

GET IT ON Google Play

Download on the App Store

Connect With Us

facebook.com/ERCOTISO

x.com/ercot_iso

linkedin.com/company/ercot

instagram.com/ercot_iso

Appendix

- Appendix A1 – Transmission Projects Added
- Appendix A2 – Transmission Backed Out
- Appendix B – G-1 Generators and X-1 Transformers List

Learn More

www.ercot.com

Download ERCOT Mobile App

GET IT ON Google Play

Download on the App Store

Connect With Us

facebook.com/ERCOTISO

x.com/ercot_iso

linkedin.com/company/ercot

instagram.com/ercot_iso

Appendix A1 – Transmission Projects Added

TPIT	Project Name	Tier	Project ISD	County
64776	Upgrade 138kV DentonWest-RDWells line to 700MVA (SUM2024)	4	July 2025	Denton
99321	Austin Ranch 138kV Capacitor Bank	4	May 2027	Denton
66118	Reconductor TI-Lakepointe with 959 ACSS/TW	4	Dec 2029	Denton

Appendix A2 – Transmission Backed Out

RTP Project ID	Project Name	County
92778	Dunham 345-138 kV Switch and Dunham - Burger Lake 138 kV Line Section	Denton

Appendix B – List of G-1 Generators and X-1 Transformers Tested

Generator	Transformer
Mountain Creek Unit #8	West Denton #1 345/138-kV
Spencer Unit #5	Lewisville #1 345/138-kV
Denton Energy Center Unit C	Collins #1 345/138-kV