



Oncor Roscoe Area Upgrades Project – ERCOT Independent Review Scope

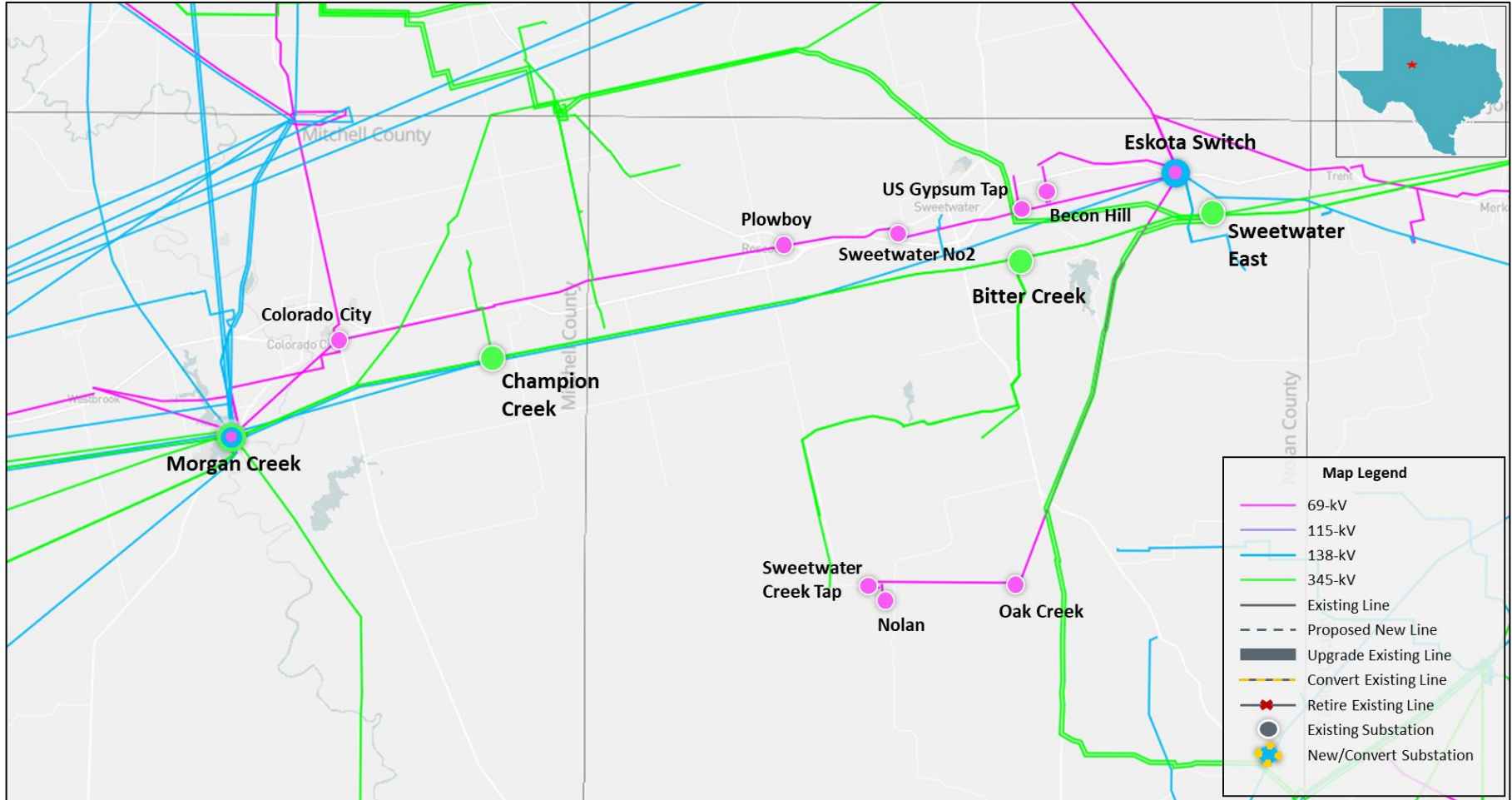
Abishek Penti

RPG Meeting
February 24, 2024

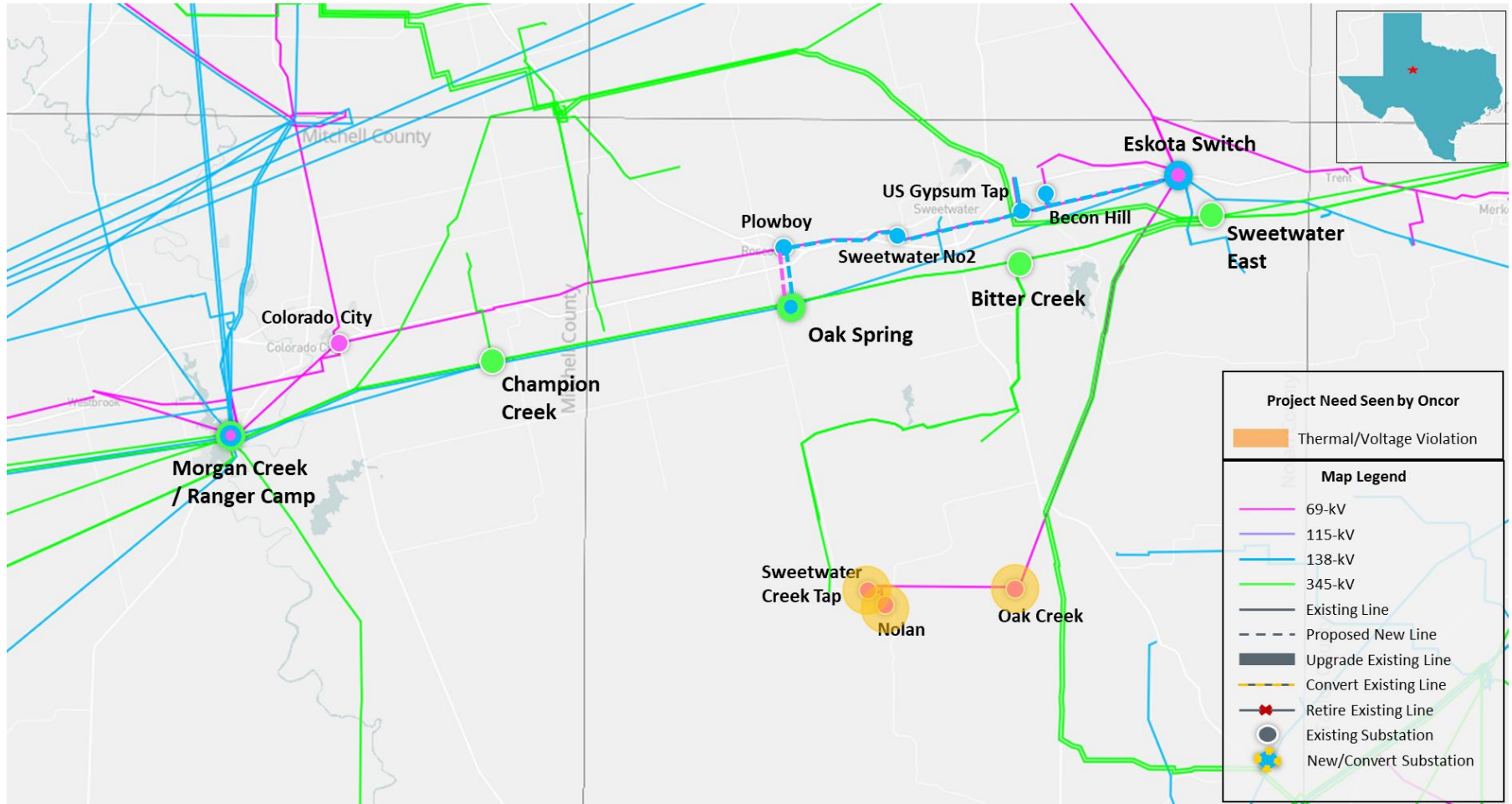
Introduction

- Oncor submitted the Roscoe Area Upgrades Project for Regional Planning Group (RPG) review in December 2024
 - This Tier 2 project is estimated to cost \$83 million and will require a Certificate of Convenience and Necessity (CCN)
 - Estimated In-Service Date (ISD) is June 2028
 - Addresses voltage violations seen by Oncor
- This project is currently under ERCOT Independent Review (EIR)

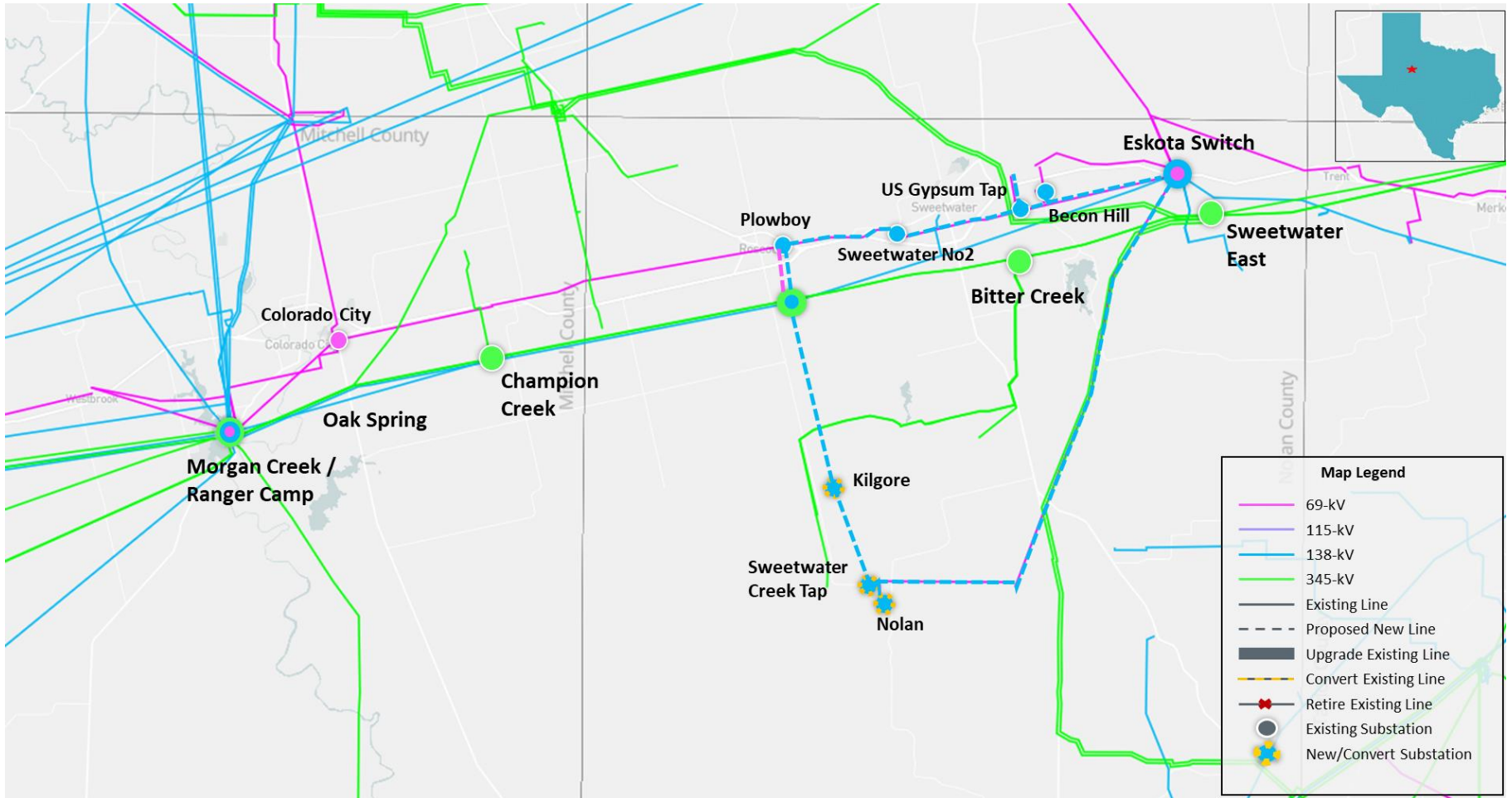
Study Area Map



Study Area Map with Permian Basin L25 Project and Need Seen by Oncor



Project Proposed by Oncor



Project Proposed by Oncor

- Establish the new load serving Kilgore 138 kV Substation, approximately 3 miles northeast of the existing Sweetwater Creek POI;
- Construct a new 15.25-mile Oak Spring to Kilgore to Sweetwater Creek POI 138 kV Line on new 138 kV double-circuit structures with one 138 kV circuit in place, using a conductor rated 2569 A or greater (normal and emergency rating of 614 MVA), requiring a CCN and approximately 15.25 miles of new Right-of-Way (ROW);
- Construct an approximately 0.1-mile loop of the new Oak Spring to Kilgore to Sweetwater Creek POI 138 kV Line into the new Kilgore 138 kV Substation. All sectionalizing switches and associated equipment will meet or exceed 3200 A for 138 kV;
- Decommission the existing Oak Creek 69 kV Substation and transfer existing load to Kilgore 138 kV Substation;
- Rebuild the existing 24.6-mile Sweetwater Creek POI to Eskota 69 kV Line on new 138 kV double-circuit structures with one 138 kV circuit in place using a conductor rated 2569 A or greater (normal and emergency rating of 614 MVA) and convert the line to 138 kV operation; and
- Install one 3200 A, 138 kV circuit breaker at Eskota 138 kV Switch.

Study Assumptions Base Case

- Study Region
 - West and Far West Weather Zones, focusing on the transmission elements near the Nolan, Mitchel, Scurry, Coke, Jones, Fisher, Runnels and Taylor Counties.
 - Monitor surrounding counties that are electrically close to the area
- Steady-State Base Case
 - Final 2024 Regional Transmission Planning (RTP) 2029 summer peak case for West and Far West (WFW) Weather Zones, posted in Market Information System (MIS), will be updated to construct the summer peak load study base case
 - Case: 2024RTP_2029_SUM_12202024
 - Link: <https://mis.ercot.com/secure/data-products/grid/regional-planning>

Study Assumptions – Transmission

- Based on the February 2025 Transmission Project and Information Tracking (TPIT) posted on MIS, projects with in-service dates before June 1, 2028, within the study area will be added to the study base case if not already modeled in the case
 - TPIT Link: <https://www.ercot.com/gridinfo/planning>
 - See Appendix A for a list of transmission projects added
- Transmission projects identified in the 2024 RTP as placeholder projects within the study area will be removed to develop the study base case
 - See Appendix B for a list of placeholder projects removed

Study Assumptions – Generation

- New generation that met Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before the end of June 1, 2028 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 the January 2024 Generator Interconnection Status (GIS) report posted in MIS in February 2025
 - GIS Link: <https://www.ercot.com/gridinfo/resource>
 - See Appendix C for a list of generation projects added
- Generation will be dispatched consistent with the 2024 RTP methodology
- All recent retired/indefinitely mothballed units will be reviewed and opened (turned off), if not already reflected in the 2024 RTP final case

Study Assumptions – Load & Reserve

- Load in study area
 - New loads in the study area will be added to the study base case
- Reserve
 - Load outside of study Weather Zone(s) will be adjusted to maintain the reserve consistent with the 2024 RTP

Contingencies & Criteria

- Contingencies for Study Region
 - NERC TPL-001-5.1 and ERCOT Planning Criteria
 - Link: <http://www.ercot.com/mktrules/guides/planning/current>
 - P0 (System Intact)
 - P1, P2-1, P7 (N-1 conditions)
 - P2-2, P2-3, P4, and P5 (345-kV only)
 - P3: G-1+N-1 (G-1: Morgan Creek Unit 1, Holstein Solar and Crowded Solar)
 - P6: X-1+N-1 (X-1: Morgan Creek , Oak Spring 345/138-kV transformers)
- Criteria
 - Monitor all 69-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 Nolan County and surrounding 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
 - Long-Term Load-Serving Capability Assessment
 - The TSP will provide the Cost Estimate and Feasibility Assessment
- 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

- Tentative Timelines
 - Status updates at future RPG meetings
 - Final recommendation – Q2 2025

Thank you!



Stakeholder comments also welcomed through:

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Appendix A – Transmission Projects

- List of transmission projects added to study base case

RPG/TPIT No	Project Name	Tier	Project ISD	TSP
90004	Juncus: Construct New 69 kV Temporary Tap	Tier 4	Mar-25	AEP TCC
81354	GSEC_9452_Add_Snodgrass_Sub	Tier 4	Apr-25	GSEC
81544	GSEC_9466_Add_CampSprings_Sub	Tier 4	May-25	GSEC
77122	Mulberry Creek: Construct New 345 kV Terminal	Tier 4	Sep-25	AEP TNC
87861	Range Rider - Ranger Camp 138 kV Double-Circuit Line	Tier 1	Nov-25	Oncor
81223	Range Rider 138 kV Switch	Tier 1	Dec-25	Oncor
81274	Ranger Camp – Cattleman 345 kV Double-Circuit Line	Tier 1	Dec-25	Oncor
81415	Tonkawa Switch Synchronous Condenser	Tier 1	May-26	Oncor
87146	GSEC_Tier4_9468_Add_Bull_Sub	Tier 4	Jun-26	GSEC
81227	Cattleman – Gascondades 345 kV Reroute	Tier 1	Dec-26	Oncor
87653	Bluff Creek to Scurry Chevron Line Rebuild	Tier 3	Dec-26	Oncor
81299	Ranger Camp – Prong Moss 345 kV Line Rebuild	Tier 1	May-27	Oncor
81232	Cattleman – Bitter Creek/Champion Creek 345 kV Reroute	Tier 1	May-27	Oncor
90065	Abilene Northwest to Mulberry Creek: Rebuild 138 kV Line	Tier 4	May-27	AEP TNC
90063	Elm Creek to Mulberry Creek: Rebuild 138 kV Line	Tier 4	May-27	AEP TNC
81152	China Grove to Tributary Line Rebuild	Tier 3	Dec-27	Oncor
81225	Cattleman - Range Rider 138 kV Double-Circuit Line	Tier 1	May-28	Oncor

Appendix B – Transmission Projects

- List of transmission projects removed from the study base case

TPIT No	Project Name	County
2021-W5	Sacroc - Deep Creek Sub 138-kV Line Upgrade	Scurry
2023-W6	Cedar Hills to Silver Tap 69-kV Line Upgrade	Coke
2023-W10	Dermott - Scurry Chevron - Knandsacrc - Oncor900041 Tap - Knapp - Bluff Creek 138-kV Line Upgrade	Scurry
2023-W19	Bluff Creek Switch (1309) - Exxon Sharon Ridge (1300) 138-kV Line Upgrade	Scurry
2024-W1	Winters (6333) - Steamboat (60332) 69-kV Line Upgrade	Runnels
2024-W2	Barber Lake Station (1189) 138-kV Cap Bank Addition	Mitchell
2024-W3	Ranger (10050) to Frontier (11393) 138-kV Second Circuit Line Addition	Mitchell
2024-W7	Ranger (10050) - Loraine South POI (11342) - Roscoe (10104) 138-kV Line Upgrade and Sweetwater Tap (1341) 138-kV Cap Bank Addition	Mitchell, Nolan
2023-WFW1	Exxon Sharon Ridge (1300) - Willow Valley Switch (1301) 138-kV Line Upgrades	Scurry, Borden

Appendix C – New Generation Projects to Add

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
23INR0372	Cross Trails Storage	OTH	05/25/2025	58.3	Scurry
24INR0627	Champion Wind Repower	WIN	05/09/2025	0.3	Nolan
24INR0629	Jade Storage SLF	OTH	01/10/2025	160.8	Scurry
24INR0630	Andromeda Storage SLF	OTH	02/21/2025	160.4	Scurry
25INR0400	Maldives Solar (Alternate POI)	SOL	07/01/2027	184.0	Scurry