



Oncor West Texas 345-kV Infrastructure Rebuild Project – ERCOT Independent Review Scope

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RPG Meeting
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Introduction

- Oncor submitted the West Texas 345-kV Infrastructure Rebuild Project for Regional Planning Group (RPG) review in November 2023
 - This Tier 1 project is estimated to cost \$1.12 billion and will require a Certificate of Convenience and Necessity (CCN)
 - Estimated in-service date
 - Summer 2028
 - Addresses thermal overloads and load growth
- This project is currently under ERCOT Independent Review (EIR)

Study Area Map



Study Assumptions – Base Case

- Study Region
 - West and Far West Weathers Zones (WZs), focusing on the transmission elements in Scurry, Mitchell, Howard, Glasscock, Martin, Midland, and Ector Counties.
 - ERCOT’s Permian Basin Load Interconnection Study – Final Update presentation, presented by ERCOT at the October 15, 2021 Regional Planning Group (RPG) meeting
 - [RPG Event Details \(ercot.com\)](https://ercot.com/rpg-event-details)
 - Includes components of ‘Preferred’ Project IDs 1, 2, 3, and 25 taken from ERCOT’s Permian Basin Load Interconnection Study
- Steady-State Base Case
 - Final 2023 Regional Transmission Planning (RTP) 2028 summer peak case for West Far West (WFW) WZs, posted in Market Information System (MIS), was updated to construct the summer peak load study base case
 - Case: 2023RTP_2028_SUM_WFW_12222023
 - Link: <https://mis.ercot.com/secure/data-products/grid/regional-planning?id=PG3-3200-M>

Study Assumption - Transmission

- Based on the October 2023 Transmission Project and Information Tracking (TPIT) posted on MIS, Tier 1, 2, 3, and 4 projects with in-service dates on or before June 2028 within the study area were added to the study base case if not already modeled in the case
 - TPIT Link: <https://www.ercot.com/gridinfo/planning>
 - See table on the next slide for the list of transmission projects added

Study Assumption – Added TPIT Projects

TPIT No	Project Name	Tier	Project ISD	TSP	County
77146	Reconductor WNK-AAT-MDT-FSH	Tier 4	Nov-23	TNMP	Winkler
70964	WETT 345 kV Volta witch	Tier 3	Jan-24	WETT	Howard
71968	Midkiff - Pemkiff 138 kV Line	Tier 4	May-24	ONCOR	Upton
73434	Shaw 138 kV POD	Tier 4	May-24	ONCOR	Reagan
76212	Model Coachwhip Sub	Tier 4	May-24	TNMP	Ward
73408	Odysseus: Build new 345 kV station	Tier 4	Oct-24	AEP TNC	Coke
71960	Upgrade Grady - Expanse 138 kV Line	Tier 4	Dec-24	ONCOR	Martin
71989	Big Spring West - Stanton East 138 kV Line	Tier 4	Dec-24	ONCOR	Martin
73043	Peck - Driver 138 kV Line	Tier 2	Dec-24	ONCOR	Glasscock
76686	Add Hog Mountain 138 kV POD	Tier 4	Dec-24	ONCOR	Glasscock
76232	Reconductor Mivida-Coachwhip-Fishhook 2045 ACCC	Tier 4	May-26	TNMP	Ward
76291	Upgraded Cedarville–BoneSpringsTap–Fishhook	Tier 4	May-26	TNMP	Ward
76293	Upgraded Cedvale-MiDiva138KV	Tier 4	May-26	TNMP	Ward
77320	Add CapBANK in COYANOSA	Tier 4	Jun-26	TNMP	Ward

Study Assumption – Added TPIT Projects

TPIT No	Project Name	Tier	Project ISD	TSP	County
77803 77807	TNMP Silverleaf and Cowpen 345/138-kV Stations	Tier 1	Jun-27	TNMP	Reeves, Ward
73368	Grey Well Draw - Buffalo 138 kV Second Circuit	Tier 3	Dec-24	ONCOR	Martin, Midland
78374	Rockhound 345/138-kV Switching Station	Tier 3	Dec-24	ONCOR	Martin, Midland

Study Assumption - Transmission

- Transmission projects identified in the 2023 RTP as placeholders for West Texas 345-kV Infrastructure Rebuild Project were removed to develop the study base case

RTP Project ID	Project Name	TSP	County
2021-FW19	Morgan Creek SES - Longshore Switch 345-kV Line Upgrade	ONCOR	Mitchell, Howard
2021-W5	Sacroc - Deep Creek Sub 138-kV Line Upgrade	ONCOR	Scurry
2022-WFW2	Midessa South SW - Consavvy - Longshore Switch - Morgan Creek SES 345-kV Line Upgrades	ONCOR	Midland, Howard, Mitchell
2023-WFW2	Morgan Creek SES - Falcon Seaboard - Midland East 345-kV Line Upgrade	ONCOR	Midland, Howard, Mitchell
2023-W10	Dermott - Scurry Chevron - Knandsacrc - Oncor900041 Tap - Knapp - Bluff Creek 138-kV Line Upgrade		Scurry
2023-W12	Morgan Creek SES - Tonkawa 345-kV Line Rebuild	ONCOR	Mitchell

Study Assumptions – Generation

- New generation that met Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before June 2028 in the study area at the time of the study, but not already modeled in the RTP cases, was added to the case based on the December 2023 Generator Interconnection Status (GIS) report posted in MIS in January 2023
 - GIS Link: <https://www.ercot.com/gridinfo/resource>

GINR	Project Name	Fuel	Project COD	Capacity (MW)	County
23INR0387	Pioneer DJ Wind	WIN	05/03/2024	140.3	Midland
23INR0470	BoCo BESS	OTH	06/22/2024	155.5	Borden
24INR0273	Al Pastor BESS	OTH	09/02/2024	100.8	Dawson

- All new generation added was dispatched consistent with the 2023 RTP methodology
- All recent retired/indefinitely mothballed units were reviewed and turned off, if not already reflected in the 2023 RTP Final case

Study Assumptions – Load & Reserve

- Load in study area
 - Load level will be consistent with the 2023 RTP
- Reserve
 - Load outside of study weather zone(s) may be adjusted to maintain the reserve consistent with the 2023 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 (EHV only)
 - P3 (G-1+N-1: G-1 Odessa Ector CC Train, Falcon Seaboard CC Train)
 - P6 (X-1+N-1: X-1 Consavvy 345/138-kV transformer, Einstein 345/128-kV transformer)
- 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 Permian Basin 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
 - Dynamic stability impact
- Generation and Load Scaling Sensitivity Analyses
 - Planning Guide Section 3.1.3(4)
- Subsynchronous Resonance (SSR) 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

- Tentative Timelines
 - Status updates at future RPG meetings
 - Final recommendation – Q1 2024

Thank you!



Stakeholder comments also welcomed through:

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