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PROJECT NO. 55999

REPORTS OF THE ELECTRIC RELABILITY COUNCIL OF TEXAS	**§**	**PUBLIC UTILITY COMMISSION**
	§	
	§	**OF TEXAS**

ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.'S NOTICE OF ENDORSEMENT OF A TIER 1 TRANSMISSION PROJECT

Pursuant to Protocol Section 3.11.4.9(1), Electric Reliability Council of Texas, Inc. (ERCOT) files this Notice of ERCOT's endorsement of a Tier 1 transmission project submitted by Texas-New Mexico Power (TNMP) as reflected in Attachments A and B. TNMP is the ERCOT-registered Transmission Service Provider (TSP) responsible for the transmission project. ERCOT is prepared to provide the Commission with any additional information it may request regarding this matter.

Dated: March 6, 2024

Respectfully Submitted,

/s/ Katherine Gross

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March 6, 2024

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TNMP
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Mr. Sandeep Borkar
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RE: TNMP Pecos County Transmission Improvement Project

Dear Mr. Hudson, Mr. Bradish, and Mr. Borkar:

On February 27, 2024, the Electric Reliability Council of Texas (ERCOT) Board of Directors endorsed the following Tier 1 transmission project in accordance with ERCOT Protocol Section 3.11.4:

Pecos County Transmission Improvement Project:

- Construct a new Coyanosa – Leon Creek double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA per circuit, approximately 31.1-mile. This transmission line will require new Right of Way (ROW). The existing Coyanosa and Leon Creek substations are currently owned by TNMP.
- Construct a new Woodhouse 138-kV substation by cutting into the existing Tarbush to Leon Creek 138-kV transmission line. The existing Tarbush and Leon Creek substations are currently owned by TNMP.
- Construct a new tie-line Woodhouse – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile. The existing Ft. Stockton substation is currently owned by AEPSC, and the new Woodhouse substation will be owned by TNMP.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile. The existing Rio Pecos

substation is currently owned by AEPSC. The existing Girvin substation is currently owned by TNMP.

- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile. The existing Rio Pecos substation is currently owned by AEPSC. The existing Crane substation is currently owned by LCRA TSC.

Should you have any questions please contact me at any time.

Sincerely,

Kristi A Hobbs

Kristi Hobbs
Vice President, System Planning and Weatherization
Electric Reliability Council of Texas

cc:

Pablo Vegas, ERCOT
Woody Rickerson, ERCOT
Prabhu Gnanam, ERCOT
Robert Golen, ERCOT
Brandon Gleason, ERCOT

ERCOT Independent Review of the TNMP Pecos County Transmission Improvement Project

Document Revisions

Date	Version	Description	Author(s)
1/18/2024	1.0	Final Draft	Tanzila Ahmed
		Reviewed by	Robert Golen

Executive Summary

Texas-New Mexico Power (TNMP) submitted the Pecos County Transmission Improvement Project to the Regional Planning Group (RPG) in August 2023. TNMP proposed this project to address thermal overloads and voltage violations under planned maintenance outage conditions in the Far West (FW) Weather Zone in the Delaware Basin area, located in Pecos County.

The TNMP proposed project was estimated to cost approximately $108.0 million and was classified as a Tier 1 project per ERCOT Nodal Protocol Section 3.11.4.3 since the proposed project would require a Certificate of Convenience and Necessity (CCN) application.

ERCOT performed an Independent Review and confirmed thermal overloads and voltage violations under planned maintenance outage scenario in the Pecos County.

The ERCOT Independent Review (EIR) evaluated nine different transmission project options. Based on the study results described in Section 5 and 6 of this report, ERCOT recommends the following Option 1 to address the reliability issues mentioned above. Option 1 consists of the following:

- Construct a new Coyanosa – Leon Creek double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA per circuit, approximately 31.1-mile. This transmission line will require new Right of Way (ROW).
- Construct a new Woodhouse 138-kV substation by cutting into the existing Tarbush to Leon Creek 138-kV transmission line.
- Construct a new tie Woodhouse – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

The cost estimate for this Tier 1 project is approximately $114.8 million. This project will require a CCN for the construction of new 138-kV double-circuit transmission line from Coyanosa 138-kV Substation to Leon Creek 138-kV Substation and the expected In-Service Date (ISD) of this project is August 2026.

TNMP requests this project be designated as critical to reliability of the ERCOT system for expedited processing of associated transmission line applications by the commission.

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1 Introduction

In August 2023, TNMP submitted the Pecos County Transmission Improvement Project to the RPG to address NERC TPL-001-5.1 reliability criteria violations (both thermal and voltage) under maintenance outage conditions due to 1,024 MW of new load in the area. This project is in the FW Weather Zone in Pecos County.

This TNMP-proposed project was classified as a Tier 1 project pursuant to ERCOT Nodal Protocol Section 3.11.4.3, with an estimated cost of approximately $108.0 million. One or more CCN application will be required for the construction of the new 138-kV line from Coyanosa Substation to Leon Creek Substation due to approximately 28.5-mile of new ROW. The expected ISD of the project is May 2026.

ERCOT conducted an Independent Review for this RPG project to identify any reliability needs in the area including thermal overloads and voltage violation under maintenance outage and evaluate various transmission upgrade options. This report describes the study assumptions, methodology, and the results of EIR of the project.

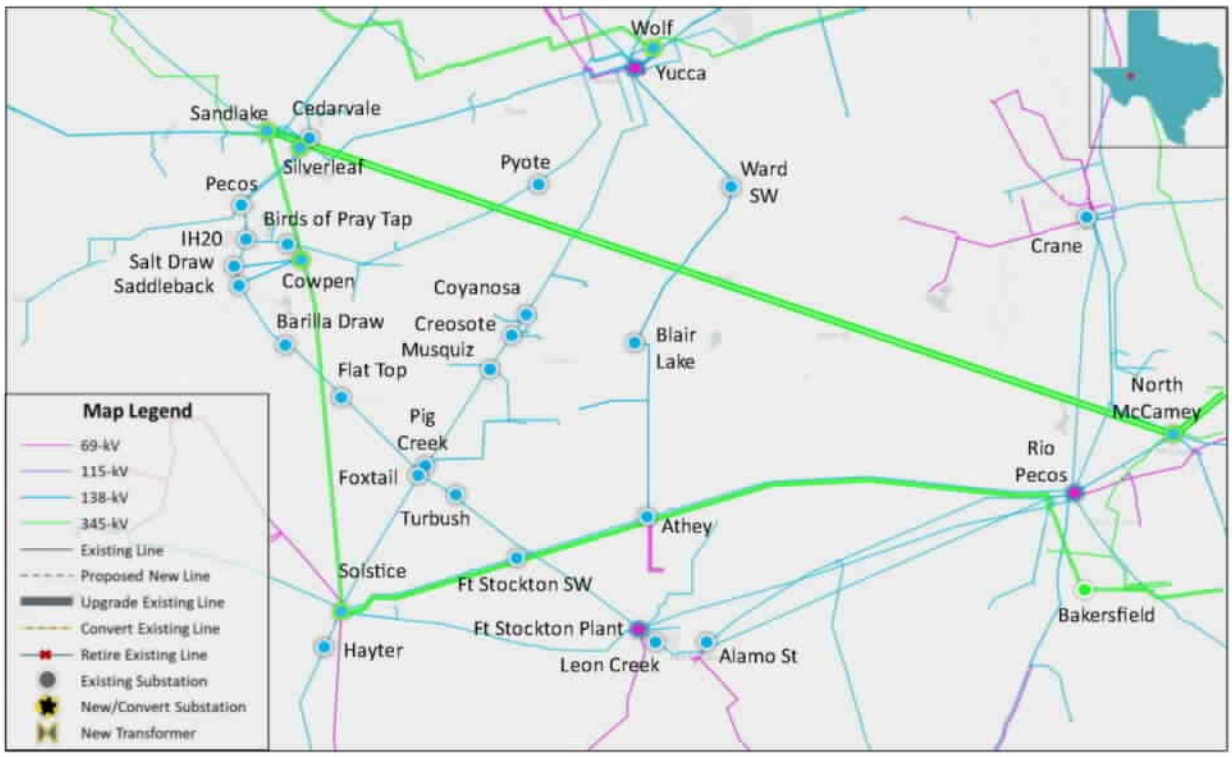

Figure 1.1: Map of Transmission System in The Pecos County

2 Study Assumptions and Methodology

ERCOT performed studies under various system conditions to identify any reliability issues and to determine transmission upgrades to support the proposed Pecos County Transmission Improvement

Project if an upgrade is deemed necessary. This section describes the study assumptions and criteria used to conduct the independent study.

2.1 Study Assumptions for Reliability Analysis

This project is in the FW Weather Zone in Pecos County. Reeves, Ward, and Winkler Counties were also included in the study because of their electrical proximity to the proposed project.

2.1.1 Steady-State Study Base Case

The Final 2022 RTP cases, published on the Market Information System (MIS) on December 22, 2022, were used as reference cases in this study. The Year 2027 Summer peak load case was selected for the long-term outlook. The steady-state study base case was constructed by updating transmission, generation, and loads of the following 2027 Summer peak load case for the West-Far West (WFW) Weather Zones.

- Case: 2022RTP_2027_SUM_WFW_12222022[1].

2.1.2 Transmission Topology

Transmission projects within the FW Weather Zone with ISDs through June 2027 were added to the study base case. The ERCOT Transmission Project Information and Tracking (TPIT)[2] report posted in June 2023 and October 2023 was used as reference. The added TPIT projects are listed in Table 2.1. These are classified as Tier 2, Tier 3, and Tier 4 projects. The recently approved Tier 1 TNMP Silverleaf and Cowpen 345/138-kV Stations Project was also added to the study base case.

Table 2.1: List of Transmission Projects Added to the Study Base Case

TPIT No	Project Name	Tier	Project ISD	TSP	County
66571	Texaco Mabee Tap - Midland East 138 kV Line Rebuild	Tier 4	9/15/2023	Oncor	Midland
66621	Sandhills - Sandhills Tap 138 kV Line Rebuild	Tier 4	5/15/2023	Oncor	Ector
68793	Expanse 345/138 kV Switch	Tier 3	5/15/2023	Oncor	Martin
70596	LCRATSC_CraneEast_CB_Sub_Upgrade	Tier 4	5/15/2023	LCRA TSC	Upton
66074	Double ckt Soaptree-Holiday-AlamoSt	Tier 4	12/25/2023	TNMP	Pecos
45670	East Stiles - Rocky Road 138 kV Line	Tier 4	12/15/2023	Oncor	Reagan
45689	Pronghorn - Salt Flat Road 138 kV Line	Tier 4	12/15/2023	Oncor	Midland
48587	Tesoro 345/138 kV Switch	Tier 3	12/15/2023	Oncor	Midland
68780	Triangle - Yosemite 138 kV Line	Tier 4	12/15/2023	Oncor	Midland
71190	Einstein - St Lawrence 138 kV Line	Tier 4	12/15/2023	Oncor	Glasscock
71193	Blue Acres - Yosemite 138 kV Line	Tier 4	12/15/2023	Oncor	Midland
71196	Grey Well Draw - Pecan Grove 138 kV Line	Tier 4	12/15/2023	Oncor	Midland
50725	Coalson Draw 138 kV Switch	Tier 4	5/15/2024	Oncor	Reeves
51225	Driver - Hadacol Corner 138 kV Line	Tier 4	5/15/2024	Oncor	Midland

[1] 2022 Regional Transmission Plan Postings: https://mis.ercot.com/secure/data-products/grid/regional-planning
[2] TPIT Report: https://www.ercot.com/gridinfo/planning

TPIT No	Project Name	Tier	Project ISD	TSP	County
71172	Luther - Vealmoor 138 kV Line	Tier 4	5/15/2024	Oncor	Borden
45640	Spraberry - Polecat Creek 138 kV Line	Tier 3	12/15/2024	Oncor	Midland
45693	Rocky Road - Stiles 138 kV Line	Tier 4	12/15/2024	Oncor	Reagan
52332	Lamesa - Paul Davis Tap 138 kV Line Section	Tier 3	12/15/2024	Oncor	Dawson
71175	Tall City - Pecan Grove 138 kV Line	Tier 4	12/15/2024	Oncor	Midland
71968	Midkiff - Pemkiff 138 kV Line	Tier 4	12/15/2024	Oncor	Upton
71971	Peck - Driver 138 kV Line	Tier 2	12/15/2024	Oncor	Glasscock
71989	Big Spring West - Stanton East 138 kV Line	Tier 4	12/15/2024	Oncor	Martin
71993	Tributary - Vincent 138 kV Line Section	Tier 4	12/15/2024	Oncor	Howard
68669	Adds Staghorn Switching Station	Tier 4	6/1/2025	TNMP	Ward
23RPG008	Fort Stockton Plant to Lynx 138-kV Line Rebuild Project	Tier 4	5/1/2025	AEPSC	Pecos
68955	Meteor 345 kV Switch	Tier 4	5/15/2024	Oncor	Ward
68790	Wolf - General Tire - Odessa EHV 138 kV Line	Tier 3	12/15/2025	Oncor	Ector
71199	Yucca Drive - Moss 138 kV Line	Tier 4	5/15/2024	Oncor	Ector
70964	WETT 345 kV Volta witch	Tier 3	1/31/2024	WETT	Howard
73452	TNMP_WINK_FISHHOOK_RECONDUCTOR_AC_4-5-2023	Tier 4	12/15/2024	TNMP	Pecos
73476	TNMP_KERMIT_RECONDUCTOR	Tier 4	11/1/2023	TNMP	Pecos
72884	Gonzales: Build 69 kV STATCOM	Tier 4	1/1/2024	ETT	Presidio
73406	TMentone 138 kV POD	Tier 4	5/31/2024	Oncor	Loving
68671	Adds Foxtail Switching Station	Tier 4	5/15/2025	TNMP	Reeves
72863	Delaware River 138 kV Switch	Tier 4	10/1/2022	Oncor	Culberson
73434	Shaw 138 kV POD	Tier 4	5/15/2024	Oncor	Reagan
76348	Reconductor Foxtail-PIGCreek-1926ACSS-138KV	Tier 4	5/15/2024	TNMP	Pecos
77320	TNMP_77320_PMCR_Add _CapBank_COYANOSA	Tier 4	5/31/2026	TNMP	Ward
76232	Reconductor Mivida-Coachwhip-Fishhook 2045 ACCC	Tier 4	6/1/2026	TNMP	Ward
76291	Upgraded Cedarvale–BoneSpringsTap–Fishhook	Tier 4	5/31/2026	TNMP	Ward
76293	Upgraded Cedvale-MiDiva138KV	Tier 4	5/31/2026	TNMP	Ward
23RPG013	Silverleaf and Cowpen 345/138-kV Stations Project	Tier 1	6/30/2027	TNMP	Reeves, Ward

Transmission projects, listed in Table 2.2, identified in the 2022 RTP as placeholders for the Silverleaf and Cowpen 345/138-kV Stations Project were removed from study base case.

Table 2.2: List of Transmission Projects Removed from the Study Base Case

RTP Project ID	Project Name	TSP	County
2022-FW2	Cedarvale 345-kV Substation Expansion	TNMP, Oncor	Ward
2022-FW4	New Opyote to Pyote 138-kV Line Addition	TNMP, Oncor	Ward
2022-FW6	Far West Reactive Power Support Device Additions	TNMP, Oncor	Ward, Ector, Reeves, Pecos
2022-FW9	Cholla 345/138-kV Station Addition	TNMP, Oncor	Ward, Loving

RTP Project ID	Project Name	TSP	County
2022-FW11	Pecos TNP - Faulkner Toyah TNP 138-kV Line Addition	TNMP	Reeves
2022-FW12	Tarbush TNP - Pig Creek 138-kV Line Upgrade	TNMP, AEPSC	Reeves
2022-FW25	Cedarvale Third 345/138-kV Transformer Addition	TNMP	Ward
2022-FW26	Tarbush TNP - Leon Creek TNP and Woodward - Airport TNP - Leon Creek TNP 138-kV Line Additions	TNMP	Pecos

2.1.3 Generation

Based on the August 2023 Generator Interconnection Status (GIS)[3] report posted on the ERCOT website on September 1, 2023, generators in the FW Weather Zone that met ERCOT Planning Guide Section 6.9(1) conditions with Commercial Operations Date (COD) prior to June 2027 were added to the study base case. These generation additions are listed in Table 2.3. All new generation dispatches were consistent with the 2022 RTP methodology.

Table 2.3: List of Generation Added to the Study Base Case Based on the August 2023 GIS Report

GINR	Project Name	Fuel	Project COD	Capacity (~MW)	County
18INR0043	Lacy Creek wind	WIN	8/1/2023	301.3	Glasscock
20INR0249	Appaloosa Run Wind	WIN	7/7/2023	175.0	Upton
20INR0269	Texas Solar Nova 2	SOL	12/29/2023	201.1	Kent
20INR0296	Sand Bluff Wind Repower	WIN	6/15/2023	89.5	Glasscock
21INR0253	Ulysses Solar	SOL	11/1/2024	150.0	Coke
21INR0532	Brazos Wind Repower	WIN	8/14/2023	22.4	Scurry
22INR0349	BRP Antlia BESS	OTH	12/1/2024	71.0	Val Verde
22INR0363	Hayhurst Texas Solar	SOL	11/1/2023	24.8	Culberson
22INR0412	Andromeda Solar	SOL	8/30/2023	326.6	Scurry
22INR0454	DR Solar	SOL	6/1/2024	46.0	Culberson
22INR0455	Blue Sky Sol	SOL	6/15/2024	101.2	Crockett
22INR0485	House Mountain	OTH	10/26/2023	63.0	Brewster
22INR0495	TIMBERWOLF BESS 2	OTH	9/1/2023	150.0	Crane
22INR0502	Shamrock	WIN	7/1/2024	223.9	Crockett
22INR0524	St. Gall I Energy Storage	OTH	12/28/2023	102.6	Pecos
23INR0371	Rodeo Ranch Energy Storage	OTH	11/6/2023	307.5	Reeves
23INR0387	Pioneer DJ Wind	WIN	4/20/2024	140.3	Midland
19INR0203	Angelo Solar	SOL	5/3/2024	195.4	Tom Green
23INR0418	Angelo Storage	OTH	5/3/2024	103.0	Tom Green
21INR0424	Tierra Bonita Solar	SOL	8/1/2024	309.7	Pecos
23INR0219	Dogfish BESS	OTH	12/31/2024	75.0	Pecos

The status of each unit that was projected to be either indefinitely mothballed or retired at the time of the study were reviewed. The units listed in Table 2.4 were opened (turned off) in the study base case to reflect their mothballed/retired status.

[3] GIS Report: https://www.ercot.com/mp/data-products/data-product-details?id=PG7-200-ER

Table 2.4: List of Generation Opened to Reflect Mothballed/Retired Status

Bus No	Unit Name	Capacity (~MW)	Weather Zone
170121	CALAVERS_JTD1	420.0	South Central
170122	CALAVERS_JTD2	420.0	South Central
150081	OLINGR_OLING_1	78.0	North Central
170381	OCI_ALM1_ASTRO	1.0	South Central
110111	DOWGEN_DOW_G37	61.0	Coast
130003	FLCNS_UNIT3	70.0	Far West
142761	BRANDON_UNIT1	20.0	North
142714	MASSENGL_G6	18.0	North
142716	MASSENGL_G7	18.0	North
142713	MASSENGL_G8	38.0	North
143671	TY_COOKE_GT2	14.0	North
143672	TY_COOKE_GT3	17.0	North
110941	SL_SL_G1	65.0	Coast
110942	SL_SL_G2	65.0	Coast
110943	SL_SL_G3	30.0	Coast
110944	SL_SL_G4	30.0	Coast
140042	WFCOGEN_UNIT4	17.0	North
130121	SGMTN_SIGNALM2	6.6	Far West

Generation listed in Table 2.5 were closed (turned on) in the study base case to reflect the change in their Generation Resource as these recourses are returning to year-round service.

Table 2.5: List of Generation Closed to Reflect Returning to Service Status

Bus No	Unit Name	Capacity (MW)	Weather Zone
110020	PNPI_GT2	71.0	Coast
150023	MCSES_UNIT8	568.0	North Central

2.1.4 Loads

Loads in the FW Weather Zone were reviewed and updated to reflect the load level in the 2023 RTP study. As shown in Table 2.6, FW Weather Zone total load is 14,349 MW in the study base case. Among the 14,349 MW of total load, 3,959 MW is associated with customers that have flexible loads.

Table 2.6: FW Load Level in the Study Base Case

	Load (MW)
Far West Total	14,349.0
Far West Flexible Loads	3,959.0

Loads outside the WFW Weather Zones were adjusted to maintain the minimum reserve requirements consistent with the 2022 RTP.

2.1.5 Long-Term Load Serving Capability Assessment

ERCOT performed long-term load serving capability assessment under base case and higher load conditions to compare the performance of the study options.

In the higher load condition evaluation, the loads in the 138-kV substation in the study area were increased (customer with flexible loads remained at the same level as in the base case), and conforming loads outside of FW Weather Zone were decreased to balance power.

2.1.6 Maintenance Outage Scenario

ERCOT developed an off-peak maintenance season scenario to further evaluate the study options.

The load level in the FW Weather Zone was reduced to 96% of its summer peak load level in the study base case. This scaling is meant to reflect assumed off-peak season loads based on ERCOT load forecast for future years as well as historical load in the FW Weather Zone.

2.2 Study Assumptions for Congestion Analysis

Congestion analysis was conducted to identify any new congestion in the study area with the addition of the preferred transmission upgrade option.

The 2022 RTP 2027 economic case was updated based on the November 2023 GIS[4] report for generation updates and the June 2023 and October 2023 TPIT[5] reports for transmission updates to conduct congestion analysis. Flexible load in Ward, Reeves, and Pecos Counties were updated to reflect the 2023 RTP load level in Table 2.6. The 2027 study year was selected based on the proposed ISD of the project.

All transmission projects listed in Table 2.1 were added and the RTP projects shown in Table 2.2 that were used as placeholders for the Silverleaf and Cowpen 345/138-kV Stations project were removed from the economic base case.

New generation additions listed in Table A.1 in Appendix A were added to the economic base case and all generation listed in Table 2.4 were opened in the study base case to reflect their mothballed/retired status. Furthermore, generation listed in Table 2.5 were removed from seasonal settings in the study base case as these recourses are returned to year-round service.

2.3 Methodology

This section lists the Contingencies and Criteria used for project review along with tool used to perform the various analyses.

[4] GIS Report: https://www.ercot.com/mp/data-products/data-product-details?id=PG7-200-ER
[5] TPIT Report: https://www.ercot.com/gridinfo/planning

2.3.1 Contingencies and Criteria

The reliability assessments were performed based on NERC Reliability Standard TPL-001-5.1, ERCOT Nodal Protocol, and Planning Criteria[6].

Contingencies[7] were updated based on the changes made to the topology as described in Section 2.1 of this document. The following steady state contingencies were simulated for the study region:

- P0 (System Intact);
- P1, P2-1, P7 (N-1 conditions);
- P2-2, P2-3, P4, and P5 (Extra High Voltage (EHV) only);
- P3-1: G-1 + N-1 (G-1: generation outages) {Permian Basin Units 1-5, and Riggins Solar}; and
- P6-2: X-1 + N-1 (X-1: 345/138-kV transformers only) {Cowpen, Solstice, and North McCamey}.

All 69-kV and above buses, transmission lines, and transformers in the study region were monitored (excluding generator step-up transformers) and the following thermal and voltage limits were enforced:

- Thermal
  - Rate A (normal rating) for pre-contingency conditions;
  - Rate B (emergency rating) for post-contingency conditions;
- Voltages
  - Voltages exceeding pre-contingency and post-contingency limits; and
  - Voltage deviations exceeding 8% on non-radial load buses.

2.3.2 Study Tool

ERCOT utilized the following software tools to perform this independent study:

- PowerWorld Simulator version 23 for Security Constrained Optimal Power Flow (SCOPF) and steady-state contingency analysis and
- UPLAN version 11.4.0.27191 to perform congestion analysis.

3 Project Need

Steady-state reliability analysis was performed in accordance with NERC TPL-001-5.1 and ERCOT Planning Criteria described in Section 2.3 of this document. This analysis indicated no violations were observed under NERC TPL-001-5.1 and ERCOT planning criteria in the study area as shown in Table 3.1.

Table 3.1: Violations Observed under NERC TPL-001-5.1 and ERCOT Planning Criteria in the Study Area

NERC Contingency Category	Voltage Violations	Thermal Overloads	Unsolved Power Flow
N-0 (P0)	None	None	None
N-1 (P1, P2-1, P7)	None	None	None

[6] ERCOT Planning Criteria: http://www.ercot.com/mktrules/guides/planning/current
[7] Details of each event and contingency category is defined in the NERC reliability standard TPL-001-5.1

G-1+N-1 (P3)	None	None	None
X-1+N-1 (P6-2)	None	None	None

Planned maintenance outage scenarios analysis were also conducted on the base case to identify project need. This analysis indicated thermal overloads, voltage violations, and voltage instability in the study area.

The five-voltage instability were observed under various planned maintenance outage conditions:

- REDACTED
- REDACTED
- REDACTED
- REDACTED
- REDACTED

Twenty-six low voltage violations were observed under various planned maintenance outage conditions which are summarized in Table 3.2.

Table 3.2: Low Bus Voltages under Planning Maintenance Outage Conditions in the Study Area

Bus Number	Bus Name	Bus Voltage (kV)	County	Min Voltage (pu)
1202	WARDSS_9	138	WARD	0.80
1238	ROYALTY_9	138	WARD	0.81
1239	COYANOSA_9	138	PECOS	0.81
1240	WFCAMPTA_9	138	PECOS	0.82
6630	FTST4A	138	PECOS	0.86
6671	TOMBSTNE4A	138	PECOS	0.87
11204	MONAHNSO_9	138	WARD	0.80
11236	BLAIRLAKE_9	138	WARD	0.81
11242	CRTNYCRK_8	138	HOWARD	0.84
11246	COYANOSAS_9	138	WARD	0.82
38294	TNFOXTAIL_1	138	REEVES	0.89
38295	TNTARBUSH_1	138	PECOS	0.83
38310	TN16TH_ST_1	138	PECOS	0.85
38331	TNALAMOST_1	138	PECOS	0.85
38340	TNAIRPORT41	138	PECOS	0.85
38345	TNP900072_TP	138	PECOS	0.84
38355	TNLEONCRK_1	138	PECOS	0.85
38432	TNCENTRY2_1	138	PECOS	0.91
38455	TNHOLIDAY_1	138	PECOS	0.91
38465	TNSTONERD_1	138	PECOS	0.91
60717	FTSW4A	138	REEVES	0.83
60718	PECV4A	138	PECOS	0.88
60792	ATHEY4A	138	PECOS	0.84
60798	ELLENBUR4A	138	PECOS	0.84

Bus Number	Bus Name	Bus Voltage (kV)	County	Min Voltage (pu)
900090	Other_138	138	PECOS	0.84
900097	Other_139	138	PECOS	0.84

Ten 138-kV transmission lines overloads were observed under various N-1-1 contingency conditions. These issues are summarized in Table 3.3 and visually illustrated in Figure 3.1.

Table 3.3: Thermal Overloads Observed under Planning Maintenance Outage Conditions in the Study Area

Overloaded Element	Worst Contingency (N-1-1)	Length (~miles)	Max Loading (%)
Rio Pecos - Girvin 138-kV Line Ckt 2	Rio Pecos - Girvin 138-kV Line + Rio Pecos - Lynx 138-kV Line	0.6	163.6
Cowpen - Saltdraw 138-kV Line	Solstice – Pig Creek 138-kV Line + Gaspad Tap - Other_134 138-kV Line	10.0	134.7
Foxtail - Tarbush 138-kV Line	Tombstone – Lynx 138-kV Line + P7 Soaptree – Holiday 138-kV DCKT Lines	2.3	124.7
Saltdraw - Saddleback 138-kV Line	Solstice – Pig Creek 138-kV Line + Gaspad Tap - Other_134 138-kV Line	0.5	123.9
Saddleback - Barilla Draw 138-kV Line	Riverview - Other_134 138-kV Line + Solstice – Pig Creek 138-kV Line	6.8	117.9
Rio Pecos - Crane 138-kV Line	P7 Rio Pecos – Soda Lake & Rio Pecos – Horsecar 138-kV Lines + P7 Rio Pecos – Oxtail SW – Spud & Rio Pecos – Spud 138-kV Lines	23.7	117.2
Ft. Stockton Plant - Leon Creek 138-kV Line	P7 Alamo St-Holiday 138-kV DCKT Lines + Tarbush – Foxtail 138-kV Line	0.1	115.5
Barilla Draw - Flattop 138-kV Line	Riverview - Other_134 138-kV Line + Solstice – Pig Creek 138-kV Line	5.8	107.5
Girvin - Soaptree 138-kV Line	Rio Pecos – Lynx 138-kV Line + Tarbush – Foxtail 138-kV Line	1.9	104.1
Rio Pecos - Girvin 138-kV Line Ckt 1	Rio Pecos - Girvin 138-kV Line Ckt 2 + Rio Pecos - Lynx 138-kV Line	0.5	101.6

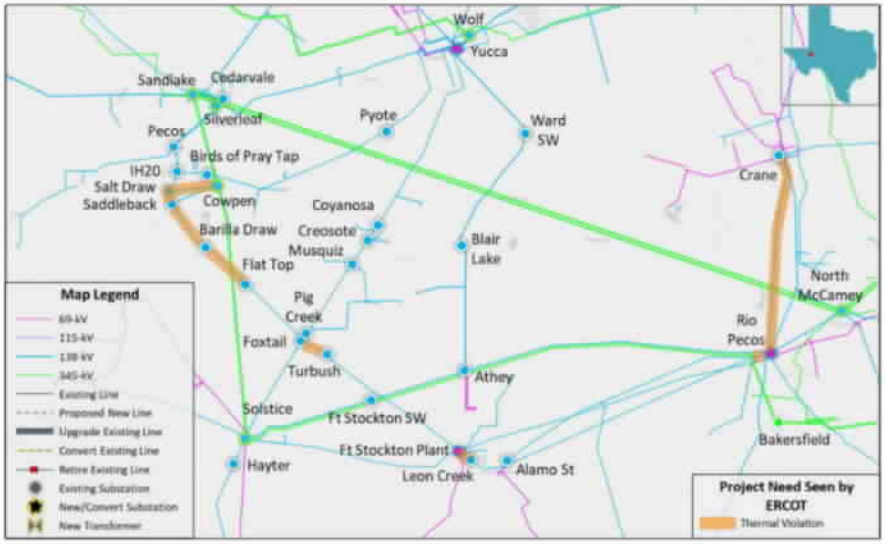

Figure 3.1: Study Area Map Showing Project Needs under Planned Maintenance Outage Scenarios

4 Description of Project Options

ERCOT initially evaluated nine system-improvement options to address the thermal overloads and voltage violations under maintenance outage conditions that was observed in the study base case in the Pecos County. All nine options resolved reliability violations in the summer peak conditions in the study area.

Option 1 (TNMP Proposed Solution) consists of the following:

- Construct a new Coyanosa – Leon Creek double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA per circuit, approximately 31.1-mile. This transmission line will require new ROW.
- Construct a new Woodhouse 138-kV substation by cutting into the existing Tarbush to Leon Creek 138-kV transmission line.
- Construct a new tie Woodhouse – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

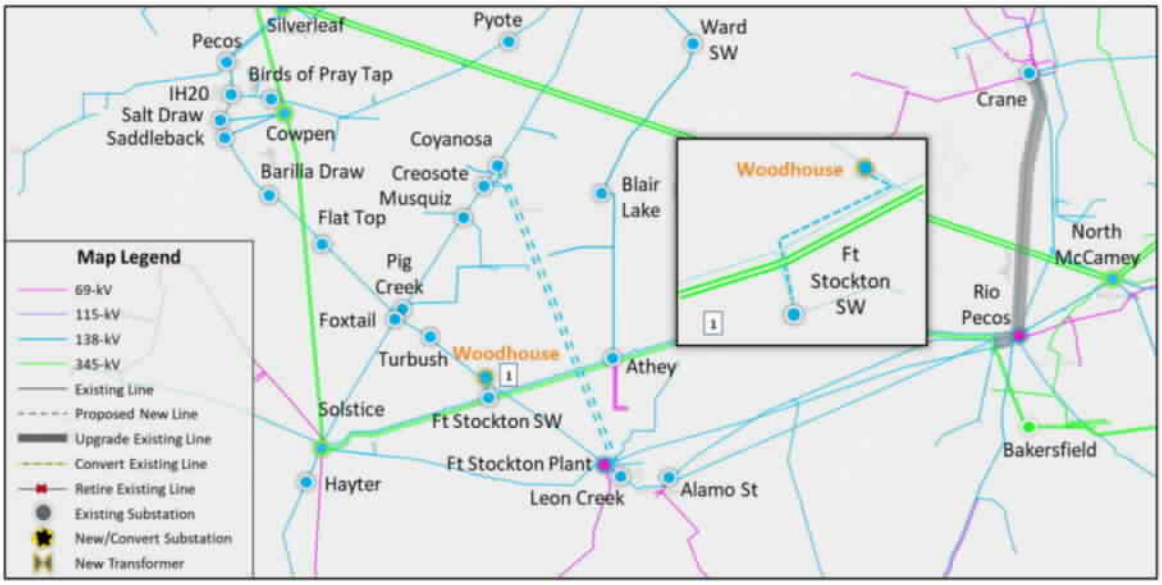

Figure 4.1: Map of Option 1

An alternative version for this option was tested which involved looping in the existing Tarbush – Leon Creek 138-kV line into Ft. Stockton SW 138-kV station instead of building the new Woodhouse 138-kV station and to tie the Woodhouse to Ft. Stockton SW.

Option 2 consists of the following:

- Construct a new Coyanosa – Athey double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA per circuit, approximately 20.0-mile. This transmission line will require new ROW.
- Construct a new Athey – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 10.0-mile. This transmission line will require new ROW.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

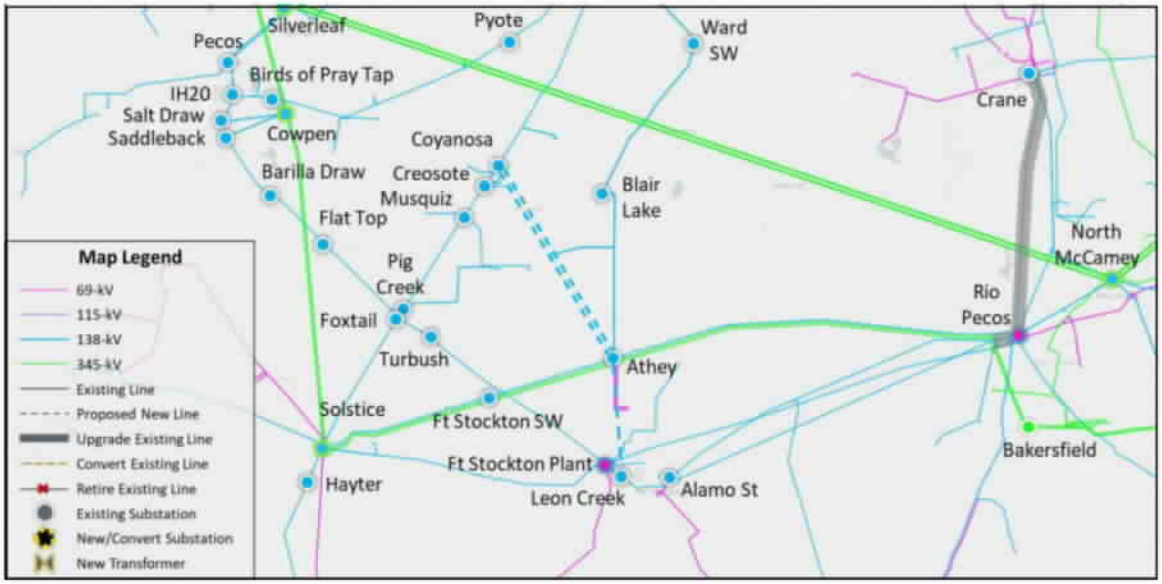

Figure 4.2: Map of Option 2

Option 3 consists of the following:

- Construct a new second circuit to the existing Hayter – Solstice 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 1.7-mile.
- Upgrade the two existing 345/138-kV transformers at Solstice 345/138-kV substation with a normal and emergency ratings of at least 800 MVA.
- Bypass the PST at the Solstice substation.
- Rebuild the existing Solstice – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 25.5-mile.
- Rebuild the existing Ft. Stockton SW – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing Flattop – Foxtail 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 8.6-mile.

- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.

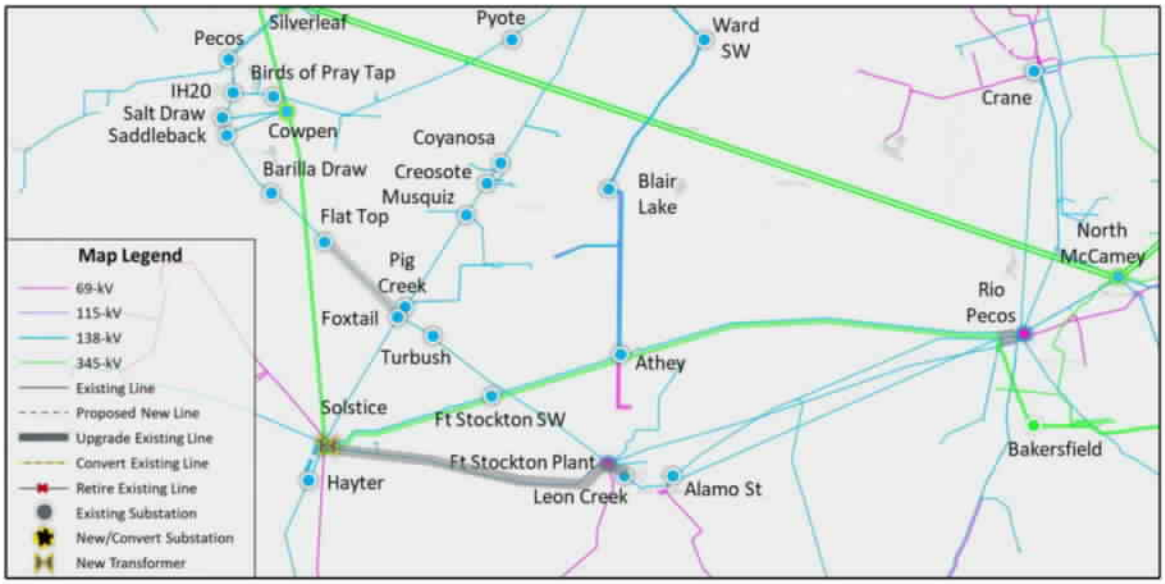

Figure 4.3: Map of Option 3

Option 4 (similar to option 3) consists of the following:

- Construct a new second circuit to the existing Hayter – Solstice 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 1.7-mile.
- Upgrade the two existing 345/138-kV transformers at Solstice 345/138-kV substation with a normal and emergency ratings of at least 800 MVA.
- Bypass the PST at the Solstice substation.
- Rebuild the existing Solstice – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 25.5-mile.
- Rebuild the existing Ft. Stockton SW – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing Flattop – Foxtail 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 8.6-mile.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Construct a new Creosote – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 21.6-mile. This transmission line will require new ROW.

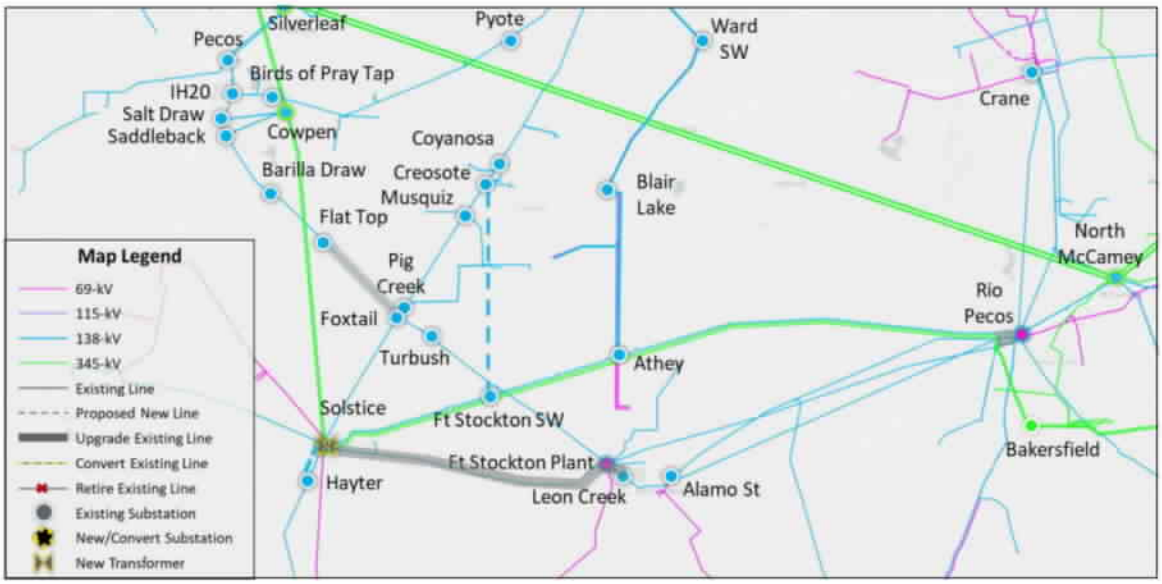

Figure 4.4: Map of Option 4

Option 5 consists of the following:

- Construct a new Coyanosa – Blair Lake double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 11.6-mile. This transmission line will require new ROW.
- Construct a new Athey – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 10.0-mile. This transmission line will require new ROW.
- Rebuild the existing Ft. Stockton SW – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

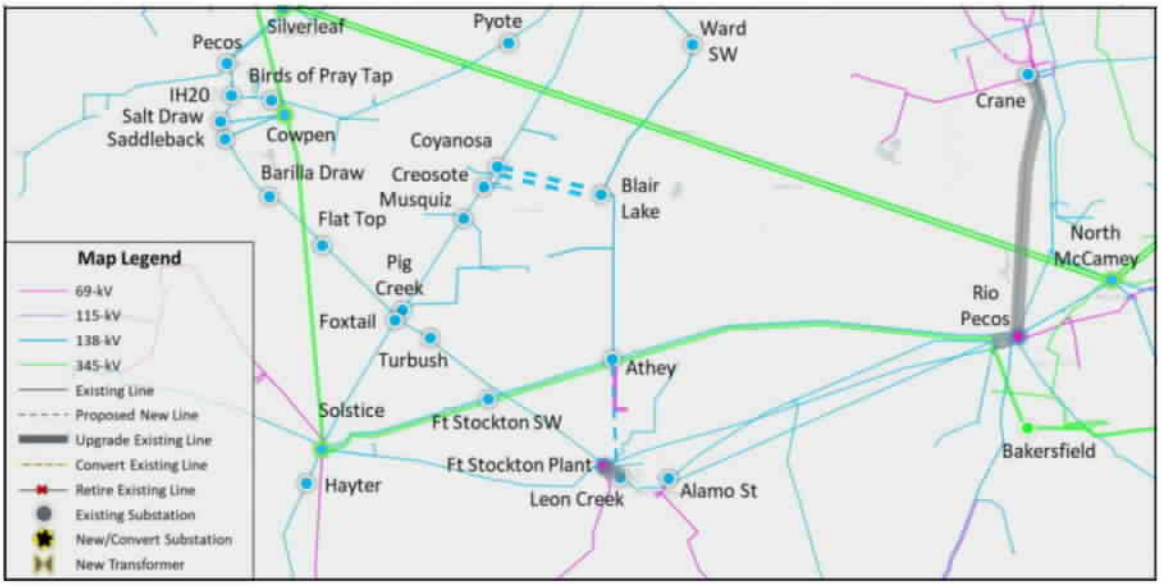

Figure 4.5: Map of Option 5

Option 6 consists of the following:

- Construct a new Coyanosa – Blair Lake double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 11.6-mile. This transmission line will require new ROW.
- Construct a new Woodhouse 138-kV substation by cutting into the existing Tarbush to Leon Creek 138-kV transmission line.
- Create a new tie between Ft. Stockton SW 138-kV substation and the new Woodhouse 138-kV substation with a normal and emergency ratings of at least 717 MVA
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

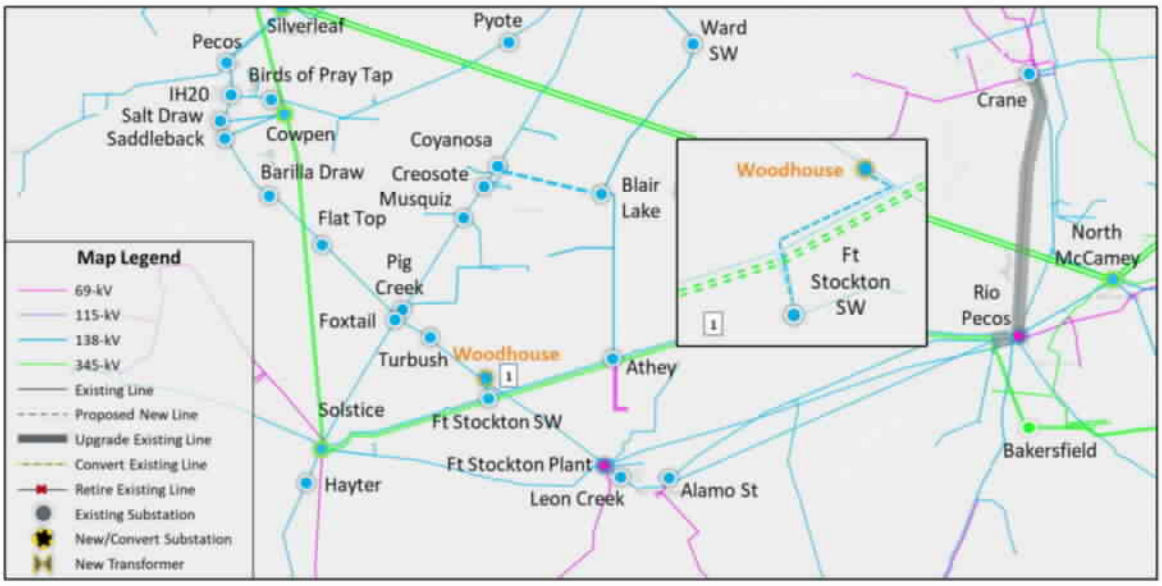

Figure 4.6: Map of Option 6

An alternative version for this option was tested which involved looping in the existing Tarbush – Leon Creek 138-kV line into Ft. Stockton SW 138-kV station instead of building the new Woodhouse 138-kV station and to tie the Woodhouse to Ft. Stockton SW.

Option 7 (similar to option 6) consists of the following:

- Construct a new Coyanosa – Blair Lake double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 6.1-mile. This transmission line will require new ROW.
- Construct a new Woodhouse 138-kV substation by cutting into the existing Tarbush to Leon Creek 138-kV transmission line.
- Create a new tie between Ft. Stockton SW 138-kV substation and the new Woodhouse 138-kV substation with a normal and emergency ratings of at least 717 MVA.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.
- Upgrade the existing Ft. Stockton SW 138-kV substation to 345/138-kV substation by installing two new 345/138-kV transformers with a normal and emergency rating of at least 800 MVA and cut into the existing Solstice – Bakersfield 345-kV double-circuit transmission line.

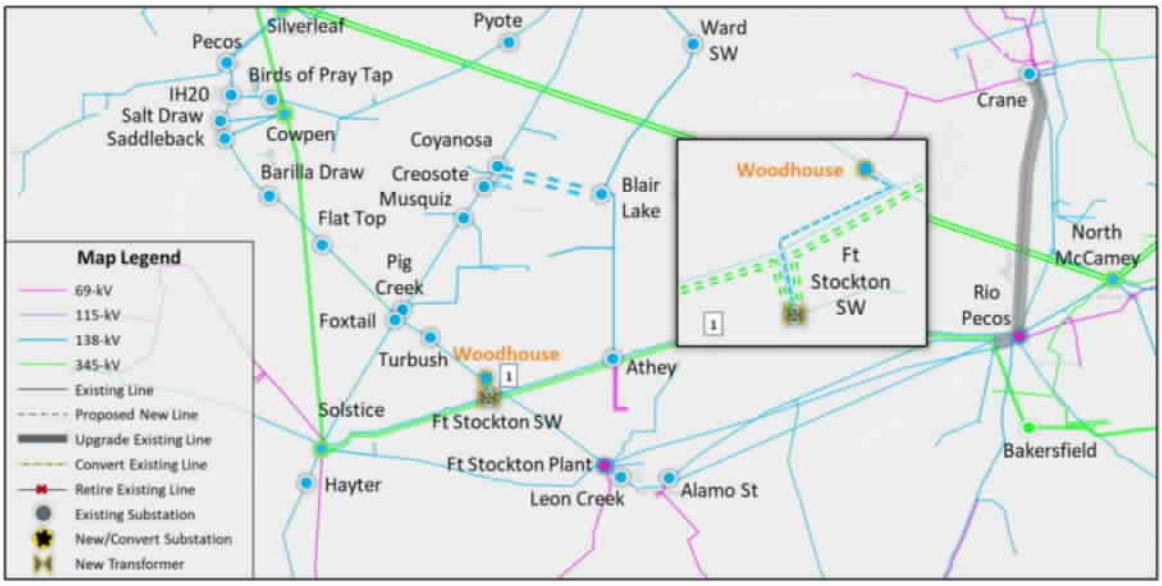

Figure 4.7: Map of Option 7

An alternative version for this option was tested which involved looping in the existing Tarbush – Leon Creek 138-kV line into Ft. Stockton SW 138-kV station instead of building the new Woodhouse 138-kV station and to tie the Woodhouse to Ft. Stockton SW.

Option 8 consists of the following:

- Construct a new Athey – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 10.0-mile. This transmission line will require new ROW.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

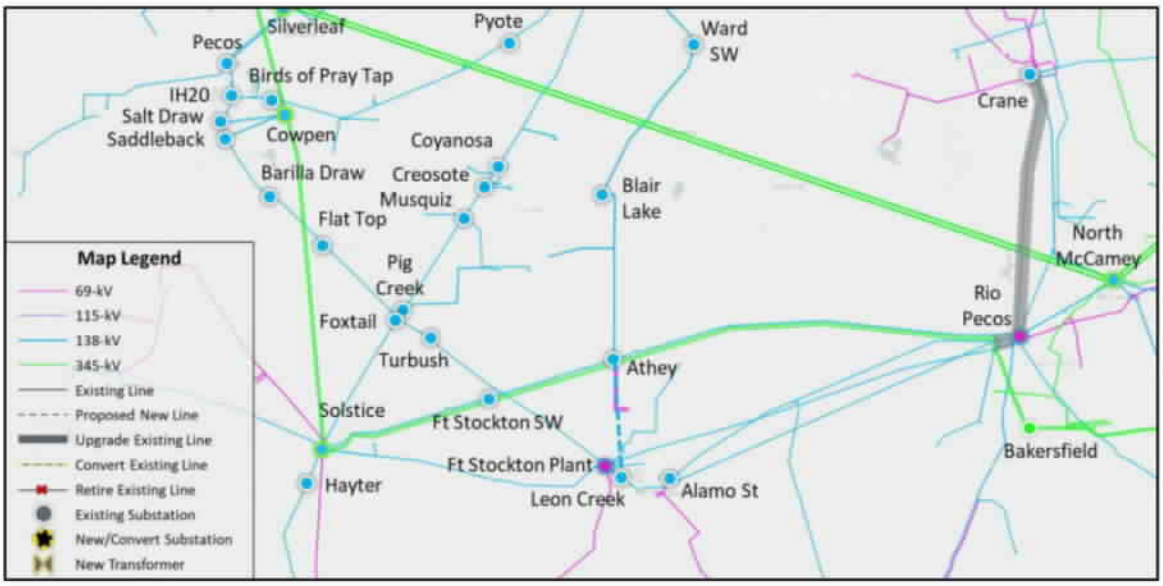

Figure 4.8: Map of Option 8

Option 9 (similar to Option 4) consists of the following:

- Construct a new second circuit to the existing Hayter – Solstice 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 1.7-mile.
- Upgrade the two existing 345/138-kV transformers at Solstice 345/138-kV substation with a normal and emergency ratings of at least 800 MVA.
- Bypass the PST at the Solstice substation.
- Rebuild the existing Solstice – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 25.5-mile.
- Rebuild the existing Ft. Stockton SW – Leon Creek 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Construct a new Creosote – Ft. Stockton SW 138-kV double-circuit transmission line with a normal and emergency ratings of at least 717 MVA per circuit, approximately 21.6-mile. This transmission line will require new ROW.

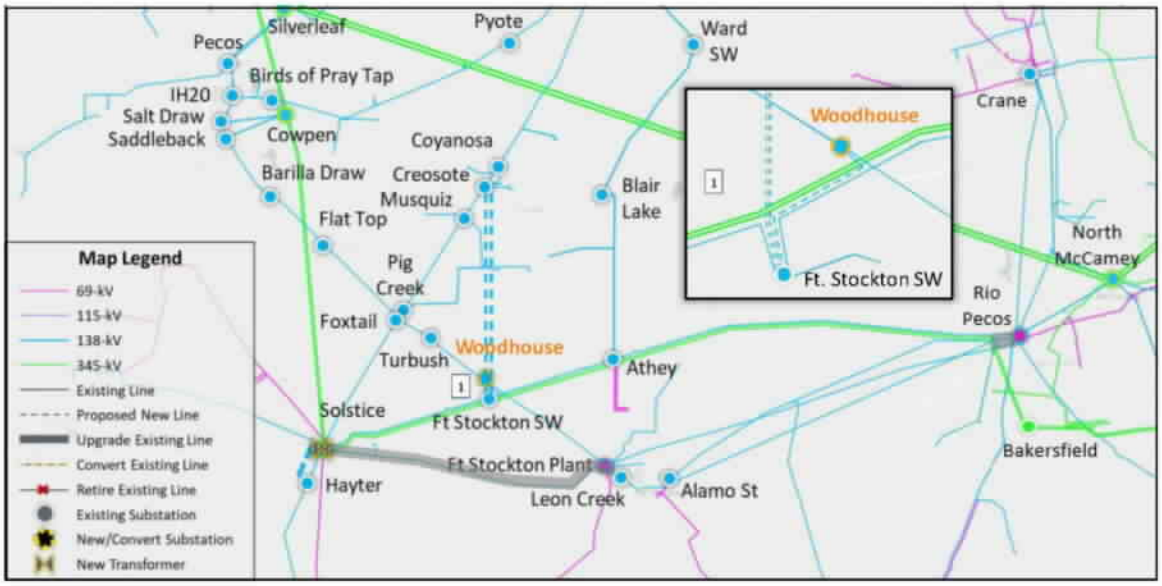

Figure 4.9: Map of Option 9

An alternative version for this option was tested which involved looping in the existing Tarbush – Leon Creek 138-kV line into Ft. Stockton SW 138-kV station instead of building the new Woodhouse 138-kV station and to tie the Woodhouse to Ft. Stockton SW.

5 Option Evaluations

ERCOT performed reliability analysis, planned maintenance outage evaluation, and long-term load serving capability assessment to evaluate all nine options and to identify any reliability impact of the options in the study area. This section details these studies and their results and compares the options.

5.1 Results of Reliability Analysis

All initial nine options were evaluated based on the contingencies described in the methodology section of the report, and no reliability criteria violation were identified for Option 1 through 9 as shown in Table 5.1.

Table 5.1: Results of Initial Reliability Assessment of All Nine Options and Alternatives

Option	Voltage Violations	Thermal Overloads	Unsolved Power Flow
1, 1-Alternative	None	None	None
2	None	None	None
3	None	None	None
4	None	None	None
5	None	None	None
6, 6-Alternative	None	None	None
7, 7-Alternative	None	None	None
8	None	None	None
9, 9-Alternative	None	None	None

5.2 Planned Maintenance Outage Evaluation

Using the P1, P2.1, and P7 contingencies based on the review of the system topology of the area, ERCOT conducted an N-2 contingency analysis for each of the study options to represent system element outages under planned maintenance condition (N-1-1) in the area. Then, each N-2 violation was run as an N-1-1 contingency scenario, with system adjustments between the contingencies. The transmission elements in the local area of the Pecos County Transmission Improvement Project were monitored in the maintenance outage evaluation.

As shown in Table 5.2, the results of this maintenance assessment indicates that Options 1, 2, 5, and 9 performed similarly and resolved all the reliability issues in the local area. Options 3, 4, 6, 7, and 8 still had the existing or new unsolved power flow issue along with voltage and/or thermal violations.

The alternative versions involve looping in the existing Tarbush – Leon Creek 138-kV line into Ft. Stockton SW 138-kV station instead of building the new Woodhouse 138-kV station and to tie the Woodhouse to Ft. Stockton SW.

Table 5.2: Results of Planned Maintenance Outage Evaluation for the Nine Options

Option	Voltage Violations	Thermal Overloads	Unsolved Power Flow
1, 1-Alternative	12	None	None
2	None	None	None
3	13	16.8-mile of 138-kV lines	7
4	12	None	13
5	None	None	None
6, 6-Alternative	3	2.9-mile of 138-kV lines	None
7, 7-Alternative	None	2.9-mile of 138-kV lines	None
8	3	17.3-mile of 138-kV lines	None
9, 9-Alternative	12	None	None

The voltage violations seen in Option 1, 3, 4, and 9 along with their alternatives are pre-existing off-peak that are not related to the project. These can be solved by adding an 80 MVAR (2 blocks of 40 MVAR) capacitor bank at Athey or Blair Lake 138-kV substations.

5.3 Short-listed Options

Based on the results shown in Table 5.2, Option 1, 2, 5, and 9 were selected as short-listed options for further evaluations. This section details these studies and their results and compares the short-listed options. These four options are illustrated in Figures 5.1, 5.2, 5.3 and 5.4.

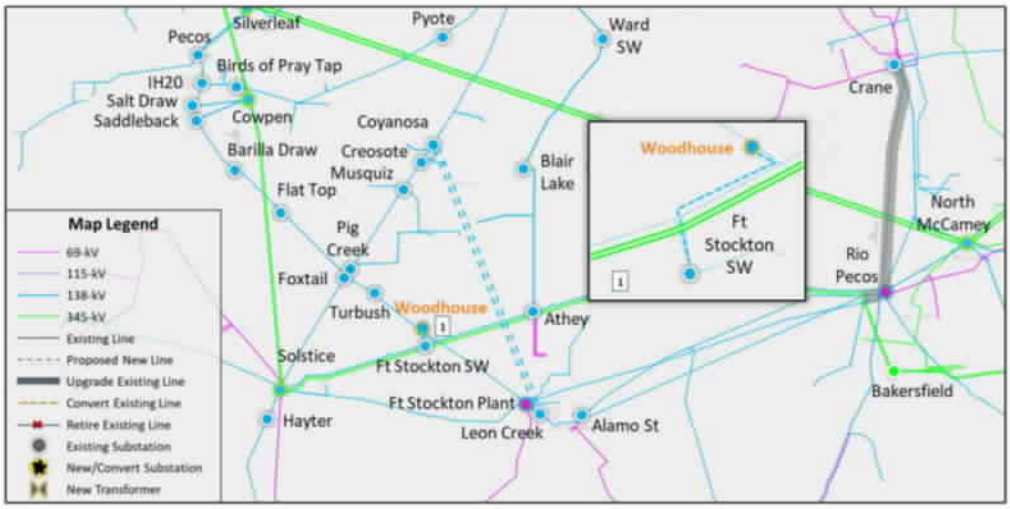

Figure 5.1: Map of Option 1

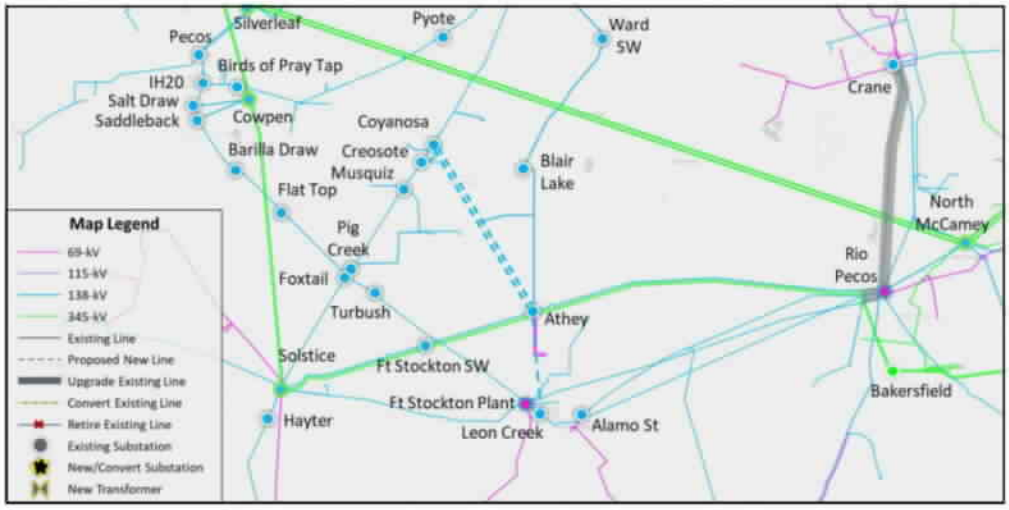

Figure 5.2: Map of Option 2

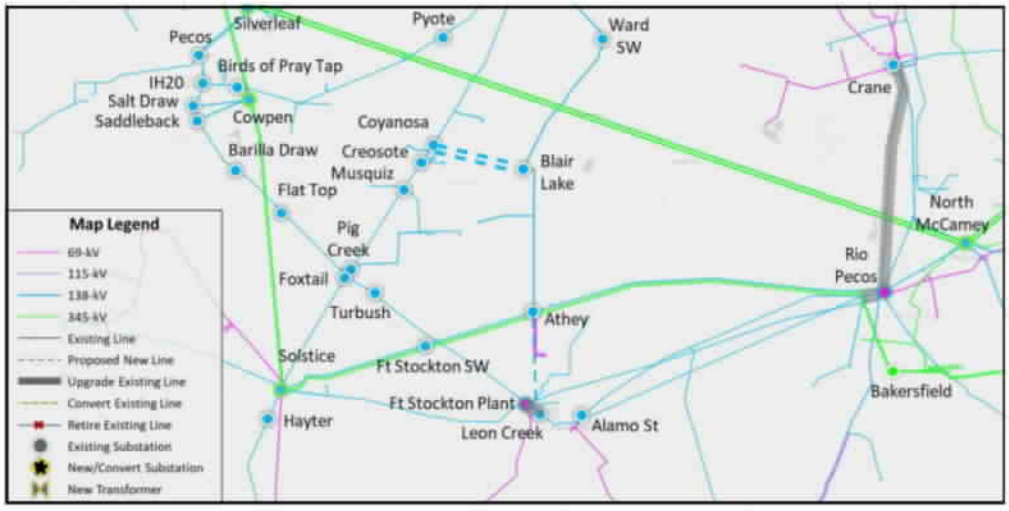

Figure 5.3: Map of Option 5

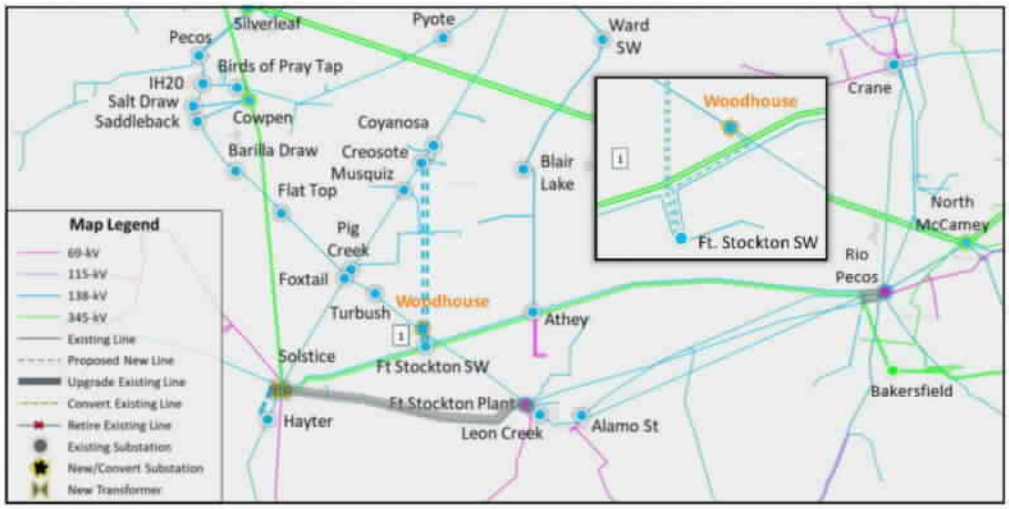

Figure 5.4: Map of Option 9

5.4 Long-Term Load Serving Capability Assessment

The Far West Weather Zone, which includes the study area, has experienced an average annual peak demand growth rate of approximately 14% from 2018 to 2023 due to significant growth in oil and natural gas industry demand. In addition to the oil and natural gas industry demand, significant increases in the demand of Customers operating datacenters or virtual currency mining facilities are also forecasted in the study area for the future years. Due to the historical and expected high load growth in this area, ERCOT performed a long-term load serving capability assessment on all four options.

The need drivers for this RPG project are to meet the forecasted loads in the area and address the maintenance outage issues. Options 1, 2, 5, and 9 address these needs and were selected to perform the long-term load serving capability assessment.

The results show Options 5 and 9 to have similar performance while Options 1 and 2 have similar performance. However, Options 1 and 2 had 24% more capability in terms of long-term load serving capability assessment. These results are shown in Table 5.3.

Table 5.3: Results of Long-Term Load Serving Capability Assessment of All Short-listed Options

Option	Incremental Load Serving Capability (~MW)
Base Case	52.0
1, 1-Alternative	189.0
2	190.0
5	153.0
9, 9-Alternative	152.0

5.5 Cost Estimate and Feasibility Assessment

TNMP, AEPSC, Oncor, and LCRA TSC performed feasibility assessments and provided cost estimates for the four short-listed options. Table 5.4 summarizes the cost estimate, estimated mileage of CCN required, option feasibility, and expected year of complication for the four short-listed options.

Table 5.4: Cost Estimates and Expected ISD for the Short-Listed Options

Option	Cost Estimates (~$M)	CCN Required (~Miles)	Feasible	Expected ISD (Year)
1	114.8*	31.1*	Feasible	May-26, Aug-26
1-Alternative	108.6**	31.1*	Not Feasible	May-26, Aug-26
2	114.3*	31.3	Feasible	May-26, Apr-27
5	113.1	22.0	Feasible	May-26, Apr-27, May-27
9	138.6	21.6	Not Feasible	May-26, 36-48 months
9-Alternative	132.4**	21.6	Not Feasible	May-26, 36-48 months

* Updated cost estimate and CCN mileage from the original estimate in the RPG submittal

** The estimated cost does not include cost of the component that was deemed infeasible by TNMP

Based on the input from TNMP, Option 1-Alternative and 9-Alternative were deemed infeasible due to TNMP interconnection requirements, and Option 9 was deemed infeasible due to TNMP system reliability risk (below unity post-contingency voltages).

6 Comparison of Short-listed Options

Based on the feasibility assessments Options 1-Alternative, 9, and 9-Alternative were removed from the comparison of options provided in the Table 6.1. The comparison of Options 1, 2, and 5, with corresponding cost estimates provided by TNMP, AEPSC, Oncor, and LCRA TSC are summarized in Table 6.1.

Table 6.1: Comparison of the Short-Listed Options

	Option 1	Option 2	Option 5
Meets ERCOT and NERC Reliability Criteria	Yes	Yes	Yes
M TNMP Facility Interconnection Requirement	Yes	Yes	Yes
Improves Operational Flexibility	Yes (Better)	Yes	Yes
Improves Long-Term Load Serving Capability	Yes (Better)	Yes (Better)	Yes
Provides Additional 138-kV Load Interconnection Point	Yes	No	No
Provides Faster Customer Connectivity (within two-years)	Yes	No	No
Requires CCN (Miles)	Yes (~31.1*)	Yes (~31.3)	Yes (~22.0)
Cost Estimates ($M)	~114.8*	~114.3*	~113.1

* Updated cost estimate and CCN mileage from the original estimate in the RPG submittal

ERCOT recommends Option 1 as the preferred option to address the reliability need in the study area based on the following considerations:

- Options 1 and 2 provides better long-term load serving capability than Option 5;
- Option 1 provides better operational flexibility;
- Option 1 provides an additional 138-kv load interconnection point; and
- Option 1 has the shortest anticipated completion time of all the short-listed options.

7 Additional Analysis and Assessment

The preferred option (Option 1, approximately $114.8 million) is categorized as a Tier 1 project, pursuant to ERCOT Protocol 3.11.4.3(1)(a). As required by Planning Guide Section 3.1.3(4), ERCOT performed generation and load sensitivity studies to identify the preferred option performance, as required under Planning Guide Section 3.1.3(4). Additionally, a Sub-synchronous Resonance (SSR) Assessment was performed.

7.1 Generation Addition Sensitivity Analysis

ERCOT performed a generation addition sensitivity analysis based on Planning Guide Section 3.1.3(4)(a).

Based on a review of the December 2023 GIS[8] reports, 11 units were found within the FW Weather Zone that could have an impact on the identified reliability issues. These units are listed in the Table 7.1. After the addition of the units to the Option 1 case, no new thermal or voltage violations were identified.

Table 7.1: List of Units that Could have an Impact on the Identified Reliability Issues

GINR	Unit Name	Fuel Type	Capacity (~MW)	County
16INR0104	Big Sampson Wind	Wind	400.0	Crockett
21INR0021	Green Holly Solar	Solar	413.6	Dawson
21INR0022	Red Holly Solar	Solar	260.0	Dawson
21INR0029	Green Holly Storage	Battery	50.0	Dawson
21INR0033	Red Holly Storage	Battery	50.0	Dawson
21INR0268	Greyhound Solar	Solar	608.7	Ector
23INR0287	BRP Avila BESS	Battery	165.0	Pecos
23INR0300	Greater Bryant G Solar	Solar	41.6	Midland
23INR0340	Larkspur Energy Storage	Battery	307.5	Upton
24INR0273	Al Pastor BESS	Battery	100.8	Dawson
25INR0208	Iron Belt Energy Storage	Battery	401.9	Borden

[8] GIS Report: https://www.ercot.com/mp/data-products/data-product-details?id=PG7-200-ER

7.2 Load Scaling Sensitivity Analysis

Planning Guide Section 3.1.3(4)(b) requires an evaluation of the potential impact of load scaling on the criteria violations seen in this ERCOT independent review. As stated in Section 2.1, ERCOT used the 2027 WFW summer peak case from the 2022 RTP and adjusted the load to create the 2027 WFW summer peak case to study the area in FW Weather Zone. This study base case, which was created in accordance with the 2022 RTP Study Scope and Process document and Section 2.1 of this document, included load scaled down from the respective non-coincident peaks in the North, North Central, South, South Central, East, and Coast Weather Zones.

The Outage Transfer Distribution Factors (OTDFs) of overloaded elements with respect to the load transfer for each Weather Zone (excluding WFW Weather Zones) were calculated using PowerWorld Simulator. The OTDFs were less than 1% for each of the overloaded elements, *i.e.*, they were not significant enough to have an impact on the overloaded elements. ERCOT concluded that the load scaling used to develop the base case in this study did not have a material impact on the project need, which was primarily driven by thermal overloads and voltage violations under maintenance outage condition in the study area.

7.3 Sub-synchronous Resonance (SSR) Assessment

Pursuant to Nodal Protocol Section 3.22.1.3(2), ERCOT conducted a sub-synchronous-resonance (SSR) screening for the preferred option (Option 1) and found no adverse SSR impacts to the existing and planned generation resources in the study area.

8 Congestion Analysis

ERCOT conducted a congestion analysis to identify any potential impact on system congestion related to the addition of the recommend project, Option 1, using the 2022 RTP 2027 final economic case.

The results of congestion analysis indicated no additional congestion in the area due to the addition of the recommended transmission upgrades of Option 1.

9 Conclusion

ERCOT evaluated the seven transmission upgrade options to resolve the thermal overloads and voltage violations under maintenance outage conditions in the Pecos County. Based on the results of the independent review, ERCOT recommends Option 1 as the preferred solution because it addresses the thermal overloads and voltage violations under maintenance outage condition with no reliability issues. This option also provides better operation flexibility, better long-term load serving capability for future load growth in the area, additional load interconnection point, and shortest anticipated completion time among all the short-listed options.

Option 1 consists of the following upgrades and is estimated to cost $114.8 million:

- Construct a new Coyanosa – Leon Creek double-circuit 138-kV transmission line with a normal and emergency ratings of at least 717 MVA per circuit, approximately 31.1-mile. This transmission line will require new ROW.
- Construct a new Woodhouse 138-kV substation by cutting into the existing Tarbush to Leon Creek 138-kV transmission line.
- Construct a new tie Woodhouse – Ft. Stockton SW 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.1-mile.
- Rebuild the existing second circuit Rio Pecos – Girvin 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 0.6-mile.
- Rebuild the existing Rio Pecos – Crane 138-kV transmission line with a normal and emergency ratings of at least 717 MVA, approximately 23.7-mile.

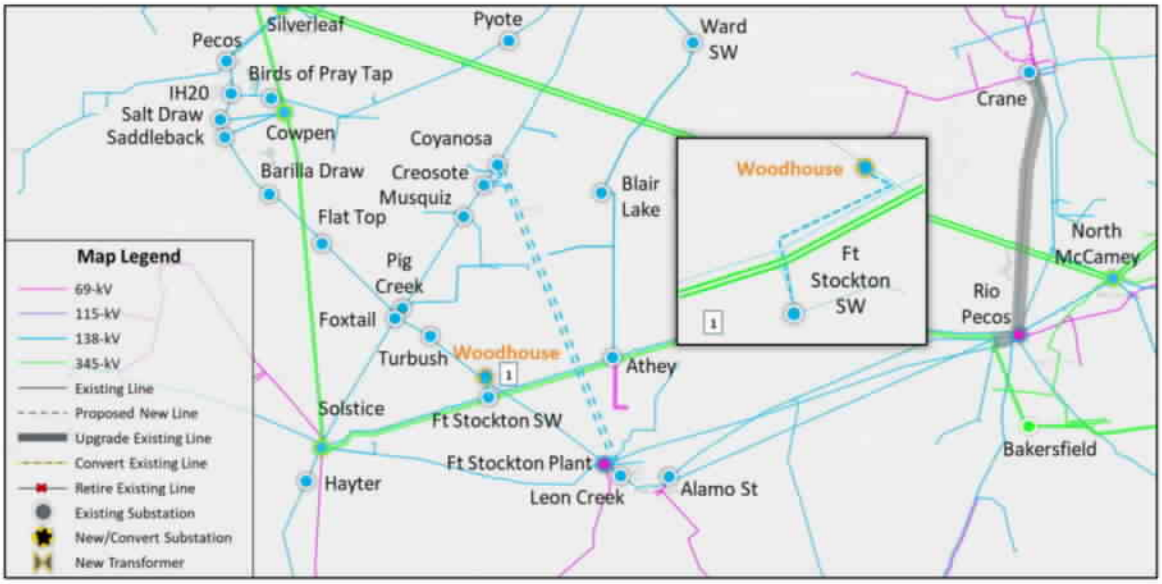

Figure 9.1: Map of Option 1

This project will require a CCN to construct the new 138-kV double-circuit transmission line from Coyanosa 138-kV Substation to Leon Creek 138-kV Substation, and the expected ISD of this project is August 2026.

Appendix A

Table A.1: List of Generation Added to the Economic Base Case Based on November 2023 GIS Report

GINR	Project Name	Fuel	Project COD	Capacity (~MW)	County
14INR0033	Goodnight Wind	WIN	12/30/2023	258.1	Armstrong
18INR0043	Lacy Creek wind	WIN	8/1/2023	301.3	Glasscock
18INR0058	Texana Solar	SOL	9/27/2024	152.3	Wharton
19INR0134	Cottonwood Bayou Solar	SOL	6/30/2024	351.4	Brazoria
19INR0177	Crawfish	WIN	12/31/2023	163.2	Wharton
19INR0203	Angelo Solar	SOL	5/3/2024	195.4	Tom Green
20INR0035	Angus Solar	SOL	4/1/2025	112.0	Bosque
20INR0047	Siete	WIN	10/31/2024	375.1	Webb
20INR0069	Danish Fields Solar	SOL	12/15/2023	602.8	Wharton
20INR0074	Pitts Dudik Solar	SOL	8/18/2023	49.6	Hill
20INR0080	Frye Solar	SOL	3/15/2024	514.1	Swisher
20INR0164	BPL Files Solar	SOL	7/26/2023	148.7	Hill
20INR0208	Signal Solar	SOL	3/15/2025	51.8	Hunt
20INR0210	Hopkins Solar	SOL	12/31/2023	253.1	Hopkins
20INR0246	Ryan Energy Storage	OTH	10/21/2024	50.0	Coryell
20INR0249	Appaloosa Run Wind	WIN	7/7/2023	175.0	Upton
20INR0250	Aguayo Wind	WIN	7/15/2023	196.0	Mills
20INR0269	Texas Solar Nova 2	SOL	12/29/2023	201.1	Kent
20INR0296	Sand Bluff Wind Repower	WIN	6/15/2023	89.5	Glasscock
21INR0012	Air Products GCA	GAS	11/30/2023	14.0	Galveston
21INR0019	Zier Solar	SOL	3/5/2024	163.0	Kinney
21INR0027	Zier Storage	OTH	3/5/2024	40.4	Kinney
21INR0203	Eastbell Milam Solar	SOL	11/30/2023	244.9	Milam
21INR0220	Maleza Solar	SOL	12/1/2024	254.9	Wharton
21INR0223	Tulsita Solar	SOL	12/31/2024	261.0	Goliad
21INR0253	Ulysses Solar	SOL	11/1/2024	150.0	Coke
21INR0257	Mercury Solar	SOL	6/30/2024	206.1	Hill
21INR0324	Board Creek Wind	WIN	7/30/2023	299.2	Navarro
21INR0325	Sheep Creek Wind	WIN	12/31/2023	153.0	Callahan
21INR0344	Lunis Creek Solar SLF	SOL	12/31/2024	617.1	Jackson
21INR0351	7V Solar	SOL	4/30/2024	240.6	Fayette
21INR0353	Big Elm Solar	SOL	7/31/2024	203.6	Bell
21INR0368	Eliza Solar	SOL	11/1/2024	151.9	Kaufman
21INR0389	Hollywood Solar	SOL	6/30/2024	353.4	Wharton
21INR0401	Young Wind	WIN	7/7/2023	499.1	Young
21INR0442	Myrtle Storage	OTH	12/15/2023	155.0	Brazoria
21INR0458	Porter Solar	SOL	3/31/2024	245.8	Denton
21INR0484	Mustang Creek Storage	OTH	8/15/2023	70.5	Jackson

GINR	Project Name	Fuel	Project COD	Capacity (~MW)	County
21INR0492	Stockyard Grid Batt	OTH	3/29/2024	150.6	Tarrant
21INR0499	Neptune Solar	SOL	12/22/2023	204.7	Jackson
21INR0511	Wolf Ridge Repower	WIN	12/31/2024	9.0	Cooke
21INR0515	Roadrunner Crossing Wind II	WIN	12/31/2023	126.7	Eastland
21INR0532	Brazos Wind Repower	WIN	8/14/2023	22.4	Scurry
22INR0223	Eiffel Solar	SOL	10/30/2023	241.0	Lamar
22INR0251	Shaula I Solar	SOL	10/30/2025	205.2	DeWitt
22INR0254	Pisgah Ridge Solar	SOL	5/15/2023	253.9	Navarro
22INR0260	Eliza Storage	OTH	11/1/2024	100.2	Kaufman
22INR0267	Shaula II Solar	SOL	5/30/2026	205.2	DeWitt
22INR0295	Coral Solar	SOL	12/15/2023	151.6	Falls
22INR0302	Bright Arrow Storage	OTH	9/19/2023	103.6	Hopkins
22INR0327	Hummingbird Storage	OTH	2/24/2024	103.8	Denton
22INR0335	Estonian Solar	SOL	10/15/2024	202.5	Delta
22INR0336	Estonian Storage	OTH	2/24/2024	101.6	Delta
22INR0338	Limousin Oak Storage	OTH	2/23/2024	104.6	Grimes
22INR0349	BRP Antlia BESS	OTH	12/1/2024	71.0	Val Verde
22INR0359	Dileo Solar	SOL	8/18/2023	71.4	Bosque
22INR0363	Hayhurst Texas Solar	SOL	11/1/2023	24.8	Culberson
22INR0366	BRP Libra BESS	OTH	11/27/2023	206.2	Guadalupe
22INR0368	Padua Grid BESS	OTH	12/31/2024	50.8	Bexar
22INR0397	Buckeye Corpus Fuels Solar	SOL	2/22/2025	57.6	Nueces
22INR0398	Sabal Storage	OTH	9/30/2023	18.0	Cameron
22INR0404	Fence Post Solar	SOL	7/12/2024	237.3	Navarro
22INR0405	Fence Post BESS	OTH	6/19/2024	71.6	Navarro
22INR0409	Stampede Solar	SOL	12/20/2024	255.7	Hopkins
22INR0410	Stampede BESS	OTH	9/21/2024	71.6	Hopkins
22INR0412	Andromeda Solar	SOL	8/30/2023	326.6	Scurry
22INR0429	Sun Valley BESS	OTH	9/10/2023	101.4	Hill
22INR0454	DR Solar	SOL	6/1/2024	46.0	Culberson
22INR0455	Blue Sky Sol	SOL	6/15/2024	101.2	Crockett
22INR0485	House Mountain	OTH	10/26/2023	63.0	Brewster
22INR0490	Callisto I Energy Center	OTH	6/1/2024	203.0	Harris
22INR0495	TIMBERWOLF BESS 2	OTH	9/1/2023	150.0	Crane
22INR0502	Shamrock	WIN	7/1/2024	223.9	Crockett
22INR0509	Turquoise Storage	OTH	7/31/2023	196.2	Hunt
22INR0524	St. Gall I Energy Storage	OTH	12/28/2023	102.6	Pecos
22INR0549	Tanzanite Storage	OTH	12/1/2024	257.7	Henderson
22INR0550	BLUE SUMMIT I REPOWER	WIN	7/1/2023	4.4	Wilbarger
22INR0551	Wolf Tank Storage	OTH	7/1/2023	155.5	Webb
22INR0552	Sowers Storage	OTH	12/1/2024	200.8	Kaufman
23INR0007	Outpost Solar	SOL	10/31/2024	513.7	Webb

GINR	Project Name	Fuel	Project COD	Capacity (~MW)	County
23INR0047	Charger Solar	SOL	5/31/2025	406.8	Refugio
23INR0054	Tanglewood Solar	SOL	1/16/2025	257.0	Brazoria
23INR0062	Noria Storage	OTH	9/1/2025	75.0	Nueces
23INR0111	GULF STAR SOLAR	SOL	2/1/2024	300.5	Wharton
23INR0124	Coral Storage	OTH	12/15/2023	99.0	Falls
23INR0153	Mercury II Solar	SOL	6/30/2024	206.1	Hill
23INR0154	Ebony Energy Storage	OTH	4/1/2024	208.4	Comal
23INR0159	Five Wells Storage	OTH	12/29/2023	220.8	Bell
23INR0160	Grimes County Solar	SOL	3/15/2025	210.0	Grimes
23INR0162	Redonda Solar	SOL	12/1/2024	253.2	Zapata
23INR0166	Great Kiskadee Storage	OTH	8/1/2024	103.1	Hidalgo
23INR0223	Garcitas Creek Solar	SOL	3/31/2025	201.9	Jackson
23INR0239	Giga Texas Energy Storage	OTH	12/15/2023	131.1	Travis
23INR0331	Talitha BESS	OTH	6/30/2024	61.4	Jim Wells
23INR0339	Remy Jade Power Station	GAS	4/1/2024	408.0	Harris
23INR0343	Guajillo Energy Storage	OTH	9/30/2024	201.1	Webb
23INR0363	Brazos Bend BESS	OTH	4/15/2024	101.6	Fort Bend
23INR0369	Anemoi Energy Storage	OTH	12/20/2023	205.0	Hidalgo
23INR0371	Rodeo Ranch Energy Storage	OTH	11/6/2023	307.5	Reeves
23INR0387	Pioneer DJ Wind	WIN	4/20/2024	140.3	Midland
23INR0408	TECO GTG2	GAS	2/18/2024	50.0	Harris
23INR0418	Angelo Storage	OTH	5/3/2024	103.0	Tom Green
23INR0419	SOHO BESS	OTH	1/1/2025	206.3	Brazoria
23INR0460	GULF STAR STORAGE	OTH	2/1/2024	301.0	Wharton
23INR0472	Frontera Energy Center	GAS	7/14/2023	524.0	Hidalgo
23INR0506	Beachwood II Power Station	GAS	3/1/2024	102.0	Brazoria
23INR0524	Temple II Repower	GAS	10/15/2023	0.0	Bell
23INR0551	Brotman II Power Station	GAS	8/7/2023	102.0	Brazoria
23INR0637	Goodnight Wind II	WIN	12/30/2023	258.3	Armstrong
24INR0015	Five Wells Solar	SOL	12/29/2023	322.8	Bell
24INR0147	Citadel BESS	OTH	5/7/2024	201.3	Harris
24INR0427	CPS AvR CT1 Rotor Replacement	GAS	1/30/2024	11.3	Bexar
23INR0470	BoCo BESS	OTH	6/22/2024	155.5	Borden
22INR0353	BRP Carina BESS	OTH	12/31/2024	151.9	Nueces
21INR0450	Danish Fields Storage	OTH	2/15/2024	152.4	Wharton
22INR0261	Dorado Solar	SOL	12/31/2025	406.3	Callahan
20INR0040	Montgomery Ranch Wind	WIN	2/29/2024	200.2	Foard
21INR0424	Tierra Bonita Solar	SOL	8/1/2024	309.7	Pecos
23INR0296	Trojan Solar	SOL	2/28/2026	151.3	Cooke
24INR0382	Remy Jade II Power Station	GAS	11/30/2024	102.0	Harris
21INR0444	Long Point Storage	OTH	12/1/2025	100.6	Brazoria
21INR0505	Ramsey Storage	OTH	6/1/2024	510.4	Wharton

GINR	Project Name	Fuel	Project COD	Capacity (~MW)	County
22INR0422	Ferdinand Grid BESS	OTH	5/31/2026	202.7	Bexar
23INR0219	Dogfish BESS	OTH	12/31/2024	75.0	Pecos
23INR0381	Soportar ESS	OTH	3/15/2025	102.1	Bexar
24INR0039	SP Jaguar BESS	OTH	6/30/2025	300.0	McLennan
24INR0109	Oriana BESS	OTH	7/2/2025	60.3	Victoria
24INR0265	Ironman BESS	OTH	11/1/2024	304.2	Brazoria
24INR0281	Red Egret BESS	OTH	6/1/2025	309.0	Galveston
24INR0436	Carambola BESS	OTH	5/31/2026	97.4	Hidalgo
25INR0162	SOHO II BESS	OTH	1/1/2025	206.3	Brazoria
21INR0302	Aureola Solar	SOL	6/28/2024	203.0	Milam
21INR0303	Mandorla Solar	SOL	1/2/2024	254.0	Milam
21INR0304	Halo Solar	SOL	6/20/2024	254.0	Bell
22INR0354	XE MURAT Solar	SOL	5/13/2024	60.4	Harris
23INR0367	Fewell Solar	SOL	9/9/2025	203.5	Limestone
24INR0038	SP Jaguar Solar	SOL	6/30/2025	300.0	McLennan
19INR0054	Monte Cristo 1 Wind	WIN	12/31/2024	236.9	Hidalgo
20INR0248	Second Division Solar	SOL	9/17/2024	100.3	Brazoria
23INR0026	Baker Branch Solar	SOL	8/1/2024	469.4	Lamar
23INR0525	Pyron Wind Repower	WIN	2/1/2024	19.9	Nolan
24INR0070	Sypert Branch Solar Project	SOL	6/1/2025	261.8	Milam
24INR0609	Rodeo Ranch Energy Storage II	OTH	11/6/2023	307.5	Reeves
25INR0223	Uhland Maxwell	GAS	4/15/2025	188.4	Caldwell
25INR0232	Isaac Solar	SOL	3/31/2026	51.6	Matagorda
22INR0555	Guevara Storage	OTH	7/15/2025	125.4	Rockwall
24INR0100	Sheep Creek Storage	OTH	7/1/2024	142.0	Callahan
24INR0138	Midpoint Storage	OTH	8/30/2025	52.2	Hill
24INR0140	Gaia Storage	OTH	7/31/2025	76.8	Navarro
24INR0273	Al Pastor BESS	OTH	9/2/2024	100.8	Dawson
24INR0295	Lucky Bluff BESS	OTH	5/31/2025	100.8	Erath
23INR0349	Tokio Solar	SOL	8/25/2025	177.6	McLennan
24INR0010	Pinnington Solar	SOL	10/15/2025	666.1	Jack
24INR0139	Midpoint Solar	SOL	8/30/2025	103.8	Hill
24INR0141	Gaia Solar	SOL	7/31/2025	152.7	Navarro