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Oncor Electric Delivery Company LLC (Oncor) - Paris Switch to Monticello Switch 345-kV Line Rebuild Project (25RPG026) – ERCOT Independent Review (EIR) Recommendation

Abishek Penti

Regional Planning Group (RPG) Meeting
April 13, 2026

Introduction

Oncor submitted the Paris Switch to Monticello Switch 345-kV Line Rebuild Project (25RPG026) for Reginal Planning Group (RPG) review in July 2025

- This is a Tier 1 project with an estimated cost of approximately $231.75 million and would not require a Convenience and Necessity (CCN)
- Estimated in-service date (ISD) is May 2027
- The project is needed to addresses post-contingency thermal overloads on Paris Switch to Monticello Switch 345-kV transmission line

This project is currently under ERCOT independent Review (EIR) and ERCOT is presenting its recommendation

- Oncor presented project overview and ERCOT provided EIR scope at the September 2025 RPG Meeting
- ERCOT provided EIR status updates at the January, February and March 2026 RPG Meetings
  - January 2026 RPG Meeting
  - February 2026 RPG Meeting
  - March 2026 RPG Meeting

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Study Area Map with Project Needs Seen by Oncor

Oncor Proposed Project

Summary of Upgrades

- Rebuild the existing Paris Switch to Monticello Switch 345-kV transmission line using double-circuit capable structures with one circuit in place with a conductor rated 2,987 MVA or greater, approximately 49.8 miles; and
- Upgrade all terminal and associated equipment to meet or exceed 1,792 MVA.

Study Assumptions

Study Region

- The Project is in North, North Central and East Weather Zones, focusing on the transmission elements in the Lamar, Franklin and Titus counties

Steady-State Base Case

- Final 2024 Regional Transmission Planning (RTP) 2029 summer peak load case, published on Market Information System (MIS) in December 2024, was updated to construct the study base case

Load Updates

- No additional loads were added in the study area and the load level was kept consistent with the final RTP cases

Reserve

- The reserve will be kept consistent with the 2024 RTP

Study Assumptions (continued)

Transmission Updates

- Transmission projects (listed in Appendix A1), based on the October 2025 Transmission Project and Information Tracking (TPIT) report and/or recently approved RPG projects were added to the base case
- Transmission projects (listed in Appendix A2) identified in the 2024 RTP in the study area that have not been approved by RPG will be removed

Generation Updates

- Generation (listed in Appendix B) that met ERCOT Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before the May 2027 (ISD) 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 August 2025 Generator Interconnection Status (GIS) report published in MIS in September 2025
- All generation will be dispatched consistent with the 2024 RTP methodology
- Generation in North Central and East Weather Zones that did not meet Planning Guide Section 6.9(1) were opened (turned off) to balance power.

Results of Reliability Assessment – Base Case

ERCOT conducted steady-state load flow analysis for the study base case according to the NERC Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria to identify the project need

Contingency Category	Voltage Violations	Thermal Overloads	Unsolved Power Flow
P0: N-0	None	None	None
P1, P2-1, P7: N-1	None	None	None
P2, P4, P5	None	None	None
P3: (G-1+N-1)*	None	3	None
P6-2: (X-1+N-1)*	None	23	None
Total	**None**	**26**	**None**

* See Appendix C for list of G-1 generators and X-1 transformers tested

Results of Reliability Assessment – Minimum Deliverability Criteria

Assessed potential reliability concerns under Planning Guide Section 4.1.1.7

- The minimum percentage of capacity is set to 100% for any Generation Resource utilizing combined cycle, steam turbine, combustion turbine, hydro, or reciprocating engine technology
- The minimum duration threshold for Energy Storage Resources (ESRs) is set to 2 hours (100% minimum percentage of capacity for ESRs with duration greater than or equal to 2 hours); and lower duration Resources will be prorated to their continuous real power capability for 2 hours

Need analysis results under Minimum Deliverability Criteria

Contingency Category	Voltage Violations	Thermal Overloads	Unsolved Power Flow
P0: N-0	None	None	None
P1, P2-1, P7: N-1	None	2	None
P2, P4, P5	None	None	None
P3: (G-1 + N-1)*	None	1	None
P6-2: (X-1 + N-1)*	None	3	None
Total	**None**	**6**	**None**

* See Appendix C for list of G-1 generators and X-1 transformers tested

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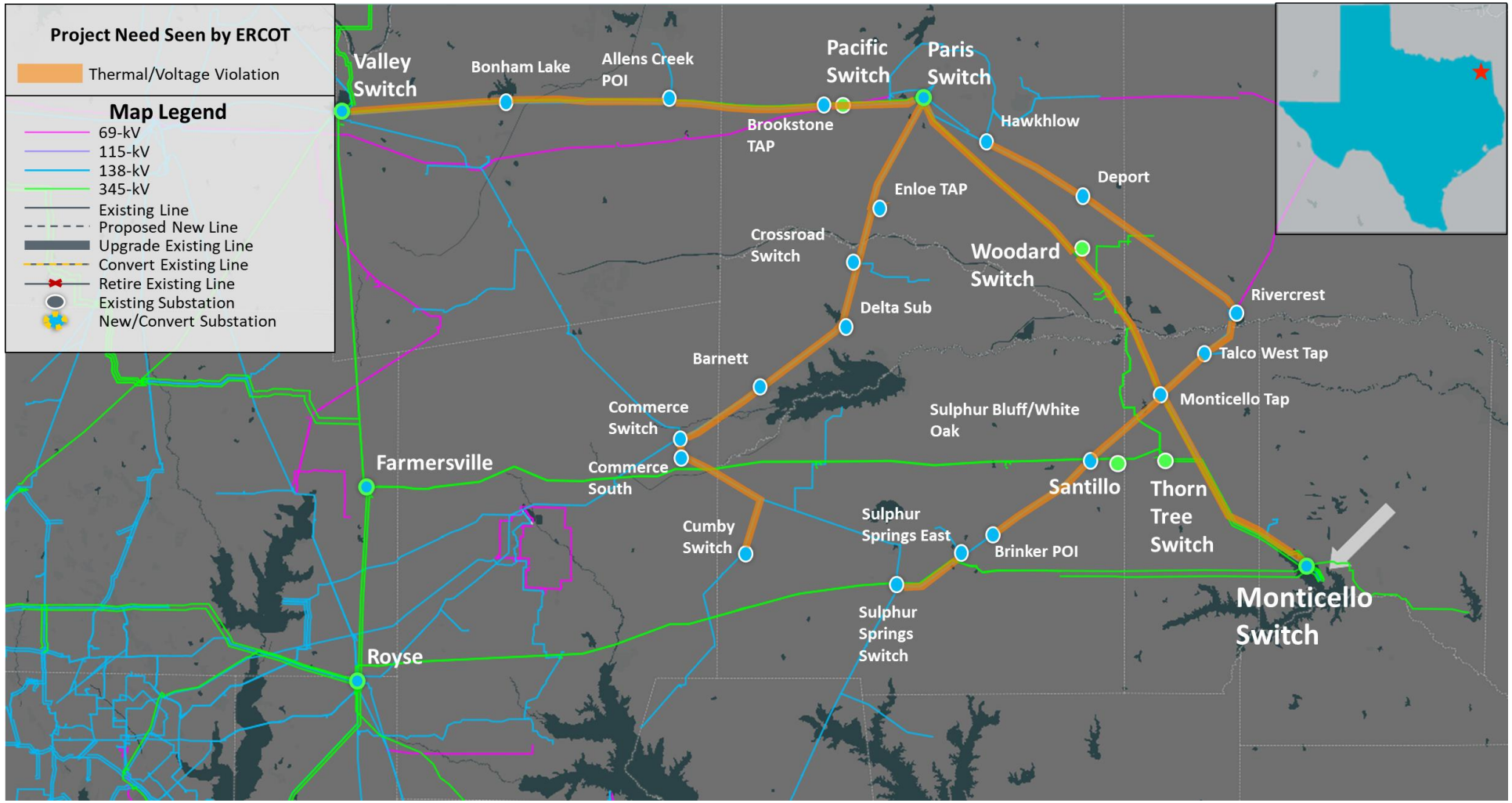
Study Area Map with Project Needs Seen by ERCOT



Options Evaluated for the Study

ERCOT developed 5 options to resolve the reliability violation seen by ERCOT

- Option 1 – Oncor Proposed Project
- Option 2 – ERCOT Alternative Option
- Option 2A – ERCOT Alternative Option
- Option 3 – ERCOT Alternative Option
- Option 3A – ERCOT Alternative Option

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Option 1 – Oncor Proposed Project

Summary of Upgrades

- Rebuild the existing Paris Switch to Monticello Switch 345-kV transmission line using double-circuit capable structures with one circuit in place with a conductor rated 2,987 MVA or greater, approximately 49.8 miles; and
- Upgrade all terminal and associated equipment to meet or exceed 1,792 MVA.

Option 2 – ERCOT Alternative Option

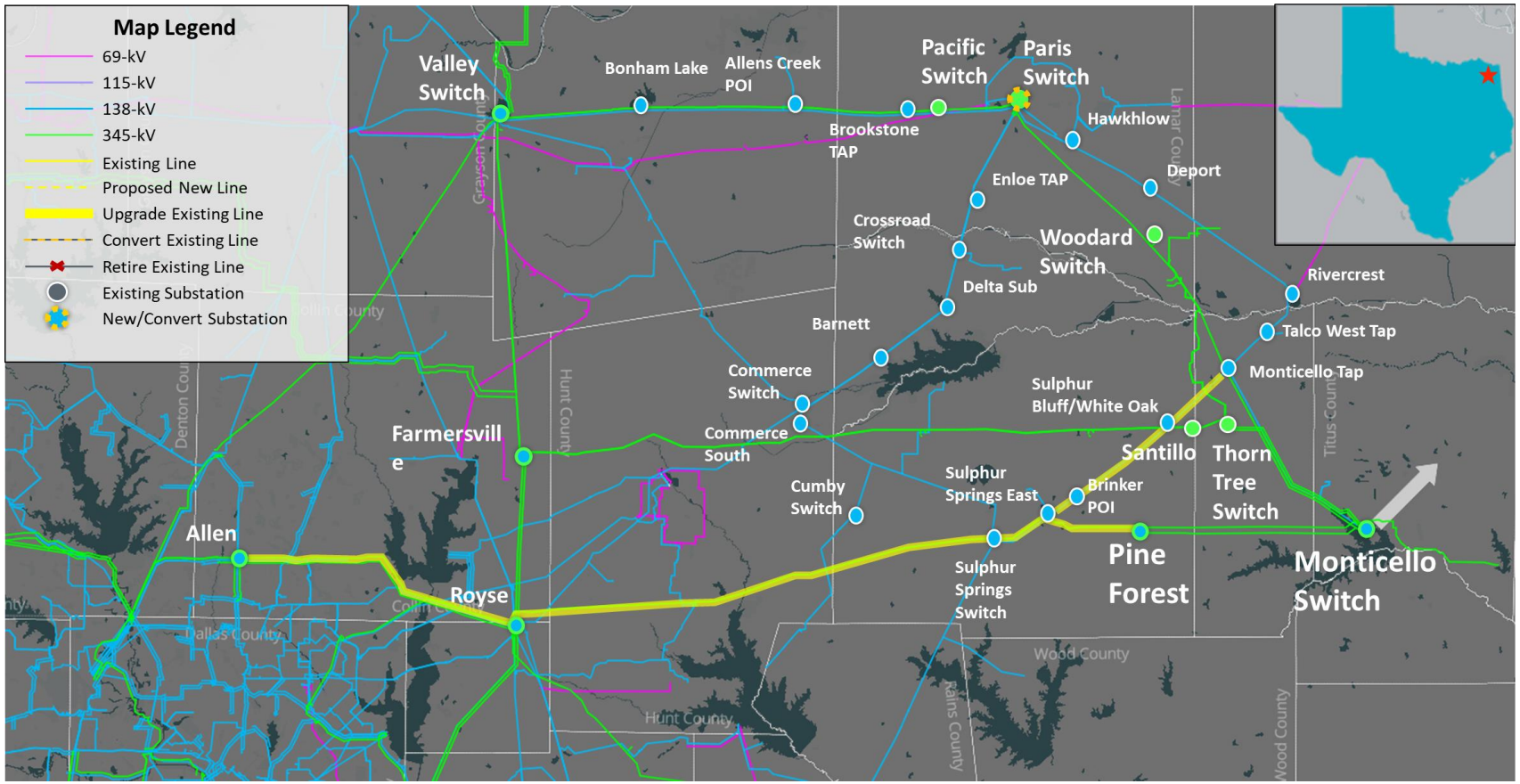
Summary of Upgrades

- Install a new 345/138-kV Auto transformer at Paris Switch with a normal and emergency ratings of 700 MVA and 750 MVA.

Option 2A – ERCOT Alternative Option

Summary of Upgrades

- Install a new 345/138-kV Auto transformer at Paris Switch with a normal and emergency ratings of 700 MVA and 750 MVA.
- Rebuild the existing Allen to Pineforest 345-kV transmission line using double-circuit capable structures with one circuit in place with a conductor rated 2,987 MVA or greater, approximately 80.9 miles; and
- Rebuild the existing Monticello Tap to Sulphur Bluff, Sulphur Bluff to White Oak POI, White Oak POI to Brinker POI and Brinker POI to Sulphur Springs East Tap 138-kV transmission lines using double-circuit capable structures with one circuit in place with a conductor rated 390 MVA or greater, approximately 20.8 miles.



Option 3 – ERCOT Alternative Option

Summary of Upgrades

- Construct a new second circuit from Paris Switch to Monticello Switch 345-kV transmission line in parallel to the existing Paris Switch to Monticello Switch 345-kV transmission line on separate structures with a conductor rated 2,987 MVA or greater, approximately 49.8 miles. This would require a new right of way (ROW); and
- Upgrade all terminal and associated equipment to meet or exceed 1,792 MVA.

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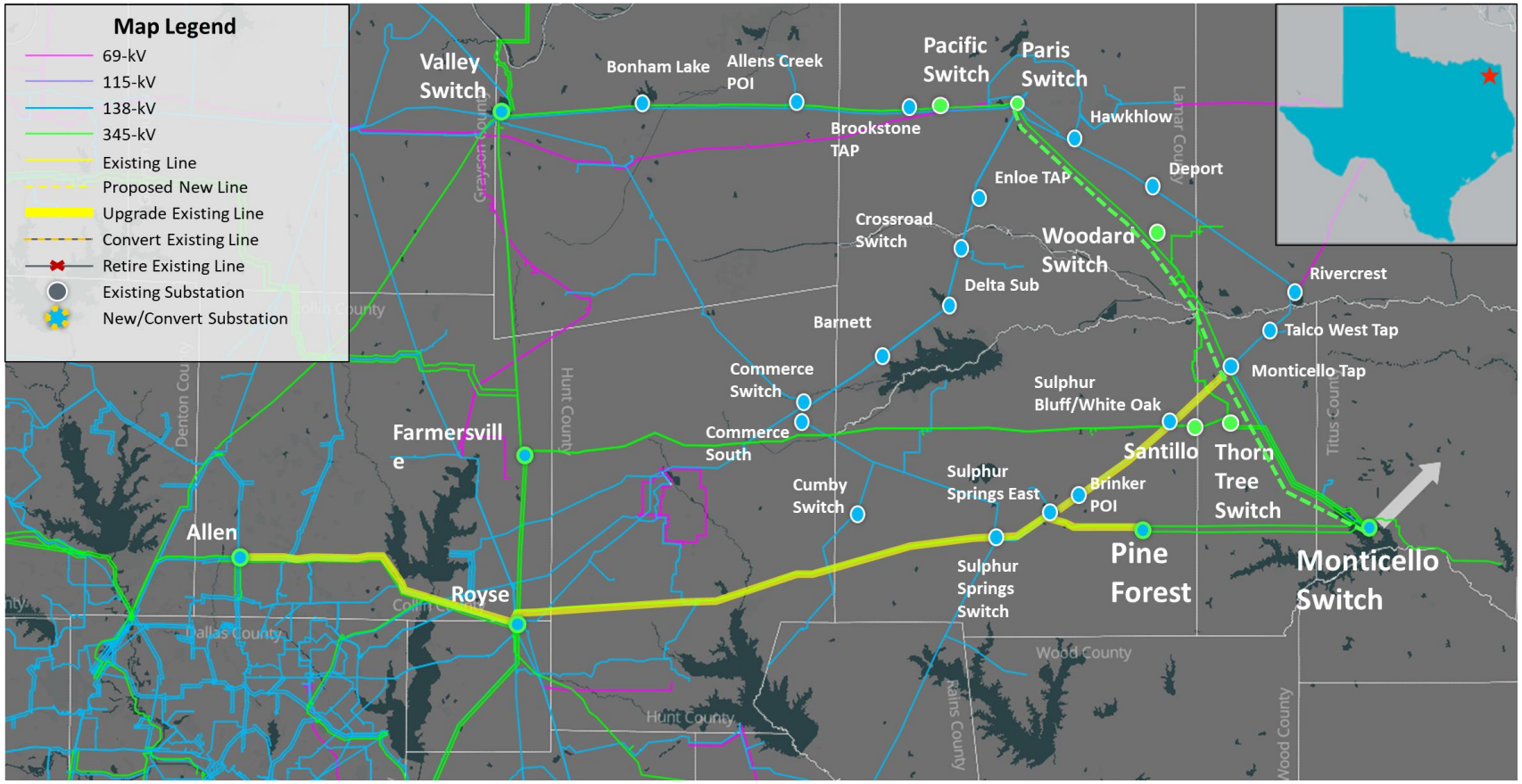
Option 3A – ERCOT Alternative Option

Summary of Upgrades

- Construct a new second circuit from Paris Switch to Monticello Switch 345-kV transmission line in parallel to the existing Paris Switch to Monticello Switch 345-kV transmission line on separate structures with a conductor rated 2,987 MVA or greater, approximately 49.8 miles. This would require a new right of way (ROW);
- Upgrade all terminal and associated equipment to meet or exceed 1792 MVA.
- Rebuild the existing Allen to Pineforest 345-kV transmission line using double-circuit capable structures with one circuit in place with a conductor rated 2,987 MVA or greater, approximately 80.9 miles; and
- Rebuild the existing Monticello Tap to Sulphur Bluff, Sulphur Bluff to White Oak POI, White Oak POI to Brinker POI and Brinker POI to Sulphur Springs East Tap 138-kV transmission lines using double-circuit capable structures with one circuit in place with a conductor rated 390 MVA or greater, approximately 20.8 miles.



Preliminary Results of Reliability Assessment – Options

ERCOT conducted steady-state load flow analysis for the all the option cases according to the NERC Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria to evaluate the proposed option and alternatives

Option	N-1		G-1+N-1*		X-1+N-1*		Unsolved Power Flow
	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	
1	None	None	None	None	None	None	None
2	None	None	3	None	3	None	None
2A	None	None	None	None	None	None	None
3	None	None	4	None	1	None	None
3A	None	None	None	None	None	None	None

* See Appendix C for list of G-1 generators and X-1 transformers tested

Key Takeaway: Option 1, Option 2A and Option 3A observed no reliability violations and are short-listed for further evaluation.

Results of Maintenance Outage Evaluation

ERCOT conducted maintenance outage analyses on three short-listed options to compare relative performance of the options

- Load levels the North, North Central and East Weather zones were scaled down based on the historical non-summer peak data to 88%, 82%, and 76% respectively, in order to mimic the non-summer peak load condition
- Based on the review of system topology of the area, ERCOT tested N-2 contingency combinations, and then tested all applicable contingency violations with system adjustments (N-1-1)

Option	Thermal Violation	Voltage Violation	Unsolved Power Flow
1	None	None	None
2A	20+	None	None
3A	None	None	None

Key Takeaway: No reliability violations were observed under the Maintenance Outage Evaluation for Option 1 and Option 3A.

Results of Reliability Assessment – Minimum Deliverability Criteria

Assessed potential reliability concerns under Planning Guide Section 4.1.1.7

- The minimum percentage of capacity is set to 100% for any Generation Resource utilizing combined cycle, steam turbine, combustion turbine, hydro, or reciprocating engine technology
- The minimum duration threshold for Energy Storage Resources (ESRs) is set to 2 hours (100% minimum percentage of capacity for ESRs with duration greater than or equal to 2 hours); and lower duration Resources will be prorated to their continuous real power capability for 2 hours

No reliability violations were observed for all three short-listed options under Minimum Deliverability Criteria

Option	N-1		G-1+N-1*		X-1+N-1*		Unsolved Power Flow
	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	
1	None	None	None	None	None	None	None
2A	None	None	None	None	None	None	None
3A	None	None	None	None	None	None	None

* See Appendix C for list of G-1 generators and X-1 transformers tested

Cost Estimate and Feasibility Assessment

Oncor performed feasibility assessments and provided cost estimates for the three short-listed options

Option	Cost Estimates (~$M)	CCN Required	Feasibility
1	$233.3	No	Yes
2A	$296.9	No	Yes
3A	$285.6	No	No

Option 3A was deemed to be infeasible due to expansion restrictions at an existing 345-kV facility

Key Takeaways:

- **Option 1 is the least cost option, No CCN is required and is a feasible option.**
- **Option 3A was deemed infeasible**

Comparison of Short-Listed Options

	Option 1	Option 2A	Option 3A
Meets ERCOT and NERC Reliability Criteria	Yes	No	Yes
Requires CCN	No	No	No
Cost Estimate (~$M)	$233.3	$296.9	$285.6
Feasible	Yes	Yes	No

Key Takeaways:

- **Option 1 meets ERCOT and NERC Reliability Criteria;**
- **Option 1 is the least cost option; and**
- **Option 1 is a feasible option.**

ERCOT Preferred Option

Option 1 was selected as the ERCOT preferred option because it

- Addresses the project need in the study area
- Meets both ERCOT and NERC reliability criteria
- Is the least cost option
- Is a feasible option

Additional Analyses

Congestion analysis was performed for the preferred option using the 2025 RTP 2030 sensitivity economic base case

- The preferred option resulted did not result in any new congestion in the area

Subsynchronous Oscillations (SSO) Assessment was conducted for the preferred option per Nodal Protocol Section 3.22.1.3

- ERCOT found no adverse SSO impacts to the existing and planned generation resources at the time of this study

Key Takeaways:

- **The ERCOT preferred option upgrades did not result in any new congestion in the area**
- **The ERCOT preferred option did not show any adverse SSO impacts to the existing and planned generation resources**

Generation Addition and Load Scaling Sensitivity Analysis

Generation Addition Sensitivity Analysis– Per Planning Guide Section 3.1.3(4)(a), ERCOT performed a generation addition sensitivity by adding the new generation listed in Appendix G to the preferred option case. The additional resources were modeled following the 2024 RTP methodology. ERCOT determined relevant generators do not impact the preferred option

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 EIR. Starting 2024, ERCOT RTP adopted a new methodology of having one summer peak case for each study year with non-coincident peaks for each of the Weather Zones, which would eliminate the load scaling impact. The study case did not include load scaling as such load scaling sensitivity analysis is no longer needed

Key Takeaways:

- **The additional generation resources added did not impact the ERCOT preferred option reliability results**
- **Load Scaling Sensitivity Analysis was not needed as ERCOT adopted to have one Summer Peak Case**

ERCOT Recommendation

ERCOT recommends Option 1

- Estimated Cost: approximately $233.3 million
- Expected ISD: May 2027
- CCN filling would not be required
- Option Description
  - Rebuild the existing Paris Switch to Monticello Switch 345-kV transmission line using double-circuit capable structures with one circuit in place with a conductor rated 2,987 MVA or greater, approximately 49.8 miles; and
  - Upgrade all terminal and associated equipment to meet or exceed 1,792 MVA

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Map of ERCOT Recommendation

Deliverables or Next Step

Tentative Timelines

- EIR report to be posted in the Market Information Service (MIS) in April 2026
- EIR recommendation to Technical Advisory Committee (TAC) in May 2026
  - Post TAC material on May 12, 2026
  - Collect and consolidate questions on May 14, 2026
  - Post consolidated questions and ERCOT responses on May 15, 2026
- Seek ERCOT Board of Directors (BOD) endorsement in June 2026

Thank you!
Questions/Comments?

Abishek.Penti@ercot.com
Robert.Golen@ercot.com

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Appendix

- Appendix A1 – Transmission Projects Added
- Appendix A2 – Transmission Backed Out
- Appendix B – Generation Added
- Appendix C – G-1 Generators and X-1 Transformers List
- Appendix D – New Generation Projects to Add for Generation Sensitivity Analysis

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Appendix A1 – Transmission Projects Added

TPIT	Project Name	Tier	Project ISD	TSP	County
92655	Oncor_MNE_92655_Farm Road 138 kV Switch	Tier 4	Aug-26	Oncor	Hopkins
92651	Oncor_MNE_92651_Barnett138 kV Switch	Tier 4	Feb-27	Oncor	Delta
90353	Establish Sandy Ranch 345 kV Switch	Tier 4	Aug-25	Oncor	Hopkins
87285	Establish Stouts Creek 345 kV Switch	Tier 4	Oct-25	Oncor	Hopkins
88063	Valley South 345 kV Switch New POI (Platinum Storage)	Tier 4	Mar-25	Oncor	Fannin
91060	Establish Flying Tiger 138 kV Switch	Tier 4	May-25	Oncor	Lamar

Appendix A2 – Transmission Backed Out

RTP Project ID	Project Name	County
2024-E6	Cumby RC (6861) to Cumby (1812) to Cumby Tap (1813-1815) 138-kV Line and Breaker Upgrades	Hopkins
2024-E8	Monticello Tap (1794) to Sulphur Springs East (1797) 138-kV Line Upgrades	Titus, Hopkins
2024-E14	Umbra (888843) to Monticello (1695) 345-kV Line Upgrade	Franklin, Titus
2024-E15	Umbra (888843) to Woodard (11699) 345-kV Line Upgrade	Franklin, Lamar
2024-E17	Sulphur Springs East (1797) to Martin Springs (1800) 138-kV Line Upgrade	Hopkins
2024-N07	Valley SES (1691) to Bells North POI (1699) to North Gate (12679) 138-kV Line Upgrade	Fannin, Grayson
2024-N10	Bonham (1808) to Copper Head Switch (11809) 138-kV Line Upgrade	Fannin
2024-N14	Hawk Hollow Switch (11768) to Monticello Tap (1794) 138-kV Line Upgrades	Franklin, Lamar, Red River, Titus
2024-N16	Delta Sub (1802) to Valley SES (1691) 138-kV Line Upgrades	Fannin, Hopkins, Hunt, Lamar
2024-N17	Bonham Switch (1760) to Bonham (1808) 138-kV Line Upgrade	Fannin
2024-NC29	Allen Switch (2514) to Pineforest POI (888854) 345-kV Line Upgrade	Collin, Hopkins
2024-NC36	Commerce Switch (1816) to Crossroads Switch (1844) 138-kV Line Upgrade	Delta, Hunt
2024-NC50	Crossroads 138-kV Area Line Upgrades	Delta, Hopkins, Hunt, Lamar

Appendix B – Generation Added

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
20INR0203	Pine Forest Solar	SOL	12/01/2025	301.5	Hopkins
20INR0222	Tyson Nick Solar	SOL	09/19/2025	90.5	Lamar
22INR0526	Pine Forest BESS	OTH	10/29/2025	200.7	Hopkins
22INR0554	Platinum Storage	OTH	10/31/2025	309.5	Fannin
23INR0026	Baker Branch Solar	SOL	05/31/2026	469.4	Lamar
23INR0225	MRG Goody Solar	SOL	05/02/2026	170.8	Lamar
23INR0494	Cartwheel BESS 1	OTH	09/30/2025	154.2	Hopkins
24INR0186	Rowdy Creek Solar	SOL	04/01/2027	351.8	Lamar
24INR0187	Rowdy Creek BESS	OTH	04/01/2027	175.9	Lamar
24INR0305	MRG Goody Storage	OTH	05/02/2026	52.3	Lamar
24INR0490	Lupinus Storage 3	OTH	09/21/2026	50.9	Franklin
25INR0368	Echols Creek Solar	SOL	04/03/2027	201.2	Lamar

Appendix C – G-1 Generators and X-1 Transformers List

Generator	Transformer
Eiffel Solar	Paris Switch – 345/138-kV
LPCC Unit 1	Monticello Switch – 345/138-kV
KMCHI Unit 1	Sulfur Spring Switch – 345/138-kV
Stamped Solar	Valley – 345/138-kV
Samson Solar	
Rowdy Creek Solar	
East DC Tie	
Impact Solar	
Pineforest Solar	

Appendix D – New Generation Projects to Add for Generation Sensitivity Analysis

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
24INR0136	Eagle Springs Storage	BAT	12/31/2026	33.1	Delta
24INR0137	Eagle Springs Solar	SOL	12/31/2026	77.2	Delta
24INR0154	Lupinus Solar 2	SOL	04/03/2027	242.3	Franklin
24INR0155	Lupinus Storage 2	BAT	04/03/2027	124.6	Franklin
25INR0164	Star Dairy Solar	SOL	04/03/2027	125.6	Lamar
25INR0334	Star Dairy Storage	BAT	04/03/2027	204.9	Lamar