



Oncor – Arlington Reliability Enhancement Project – ERCOT Independent Review (EIR) Scope and Status Update

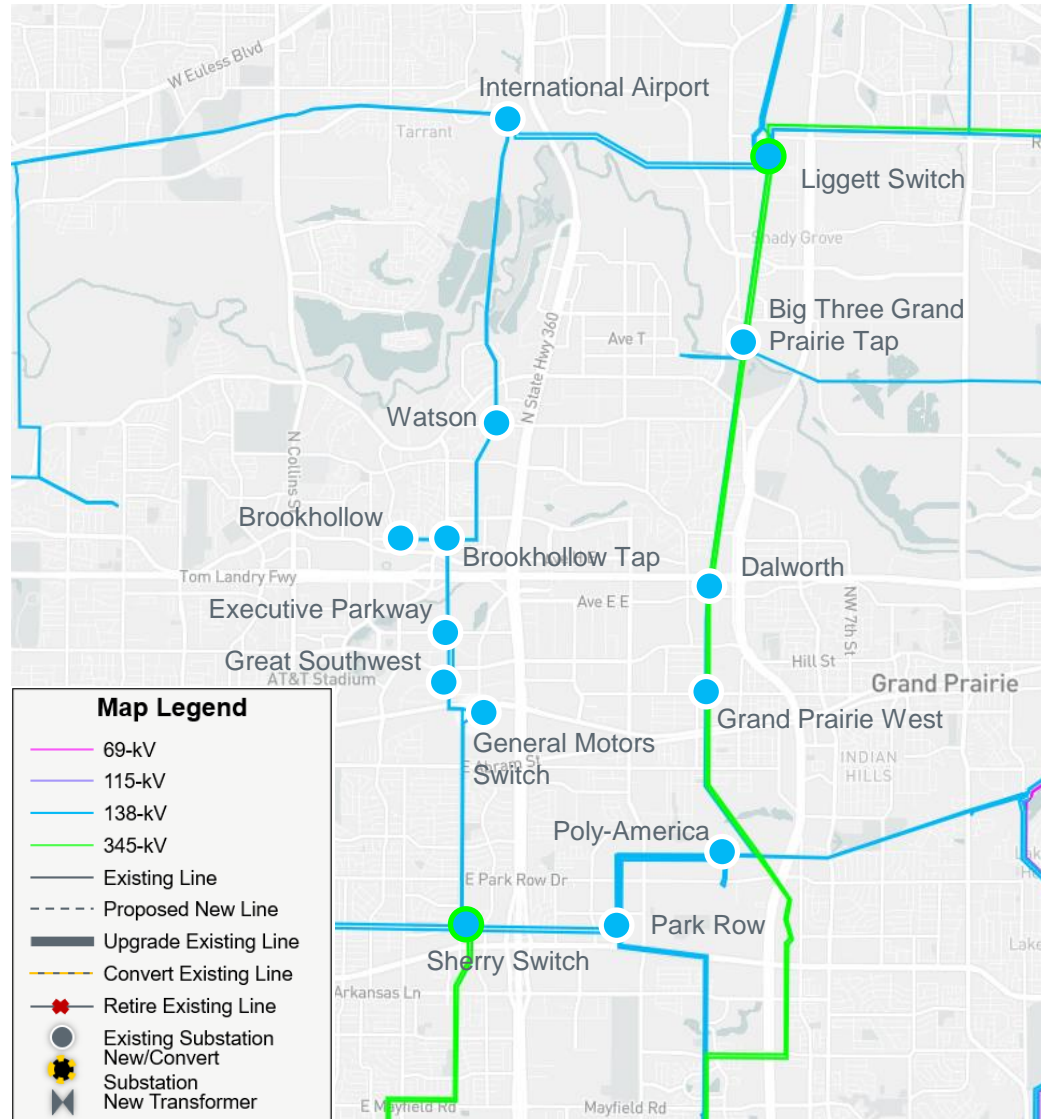
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RPG Meeting
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Introduction

- Oncor submitted the Arlington Reliability Enhancement Project for Regional Planning Group (RPG) review in August 2023
 - This Tier 2 project is estimated to cost \$72 million and will require a Certificate of Convenience and Necessity (CCN)
 - Estimated in-service date
 - May 2026
 - Addresses particular reliability exposure needs in the Arlington area, promotes reliable operation, and improves sectionalizing capabilities
 - Not intended to solve any specific ERCOT or NERC planning criteria
- This project is currently under ERCOT Independent Review (EIR)

Study Area Map



Study Assumptions – Base Case

- Study Region
 - North Central Weather Zone (WZ), focusing on the transmission elements near the Arlington area in Tarrant and Dallas counties
 - Monitor surrounding counties that are electrically close to the area
- Steady-State Base Case
 - The final 2022 Regional Transmission Planning (RTP) 2027 summer peak case for North-North Central (NNC) WZs, posted in Market Information System (MIS), was updated to construct the summer peak load study base case
 - Case: 2022RTP_2027_SUM_NNC_12222022
 - Link: <https://mis.ercot.com/secure/data-products/grid/regional-planning>

Study Assumption - Transmission

- Based on the May 2023 Transmission Project and Information Tracking (TPIT) posted on MIS, Tier 4 projects with in-service dates on or before May 2026 within the study area were added to the study base case if not already modeled in the case. Approved Tier 1 and 3 projects were also added
 - TPIT Link: <https://www.ercot.com/gridinfo/planning>
 - See Appendix A for a list of transmission projects added
- Any applicable Tier 2 projects were already present in the RTP basecase

Study Assumptions – Generation

- New generation that met Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before May 2026 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 July 2023 Generator Interconnection Status (GIS) report posted in MIS in August 2023
 - GIS Link: <https://www.ercot.com/gridinfo/resource>
 - See Appendix B for a list of generation projects added
- All new generation added was dispatched consistent with the 2022 RTP methodology
- All recent retired/indefinitely mothballed units were reviewed and turned off, if not already reflected in the 2022 RTP Final case

Study Assumptions – Load & Reserve

- Load in study area
 - Load level was consistent with the 2022 RTP
- Reserve
 - Load outside of study weather zone(s) was adjusted to maintain the reserve consistent with the 2022 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)
 - P3: G-1+N-1 (G-1: Handley unit 5, Midlothian Unit 6, Mountain Creek Unit 8)
 - P6: X-1+N-1 (X-1: 345/138-kV transformers at Sherry Switch, Liggett Switch)
- 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
 - Reliability analysis was performed to identify if a need existed to serve the Arlington area load using the study base case
- Project Evaluation
 - Project alternatives were tested to satisfy the NERC and ERCOT reliability requirements

Preliminary Results of Reliability Assessment – Base Case

Contingency Category	Unsolved Power Flow	Voltage Violations	Thermal Overloads
P1	None	None	None
P2.1	None	None	None
P3 (G-1+N-1)	None	None	None
P6.2 (X-1+N-1)	None	None	None
P7	None	None	None

Option 1N - Proposed Project by Oncor

- Construct new 138-kV load-serving station (Division) between Sherry Switch and Great Southwest
- Construct new 0.6-mile Division to Executive Parkway/Sherry Switch 138-kV double circuit transmission line
- Construct new 2.4-mile Great Southwest to North of Grand Prairie West and General Motors Switch to North of Grand Prairie West 138-kV double circuit transmission line
- Add two 138-kV sectionalizing switches at Brookhollow



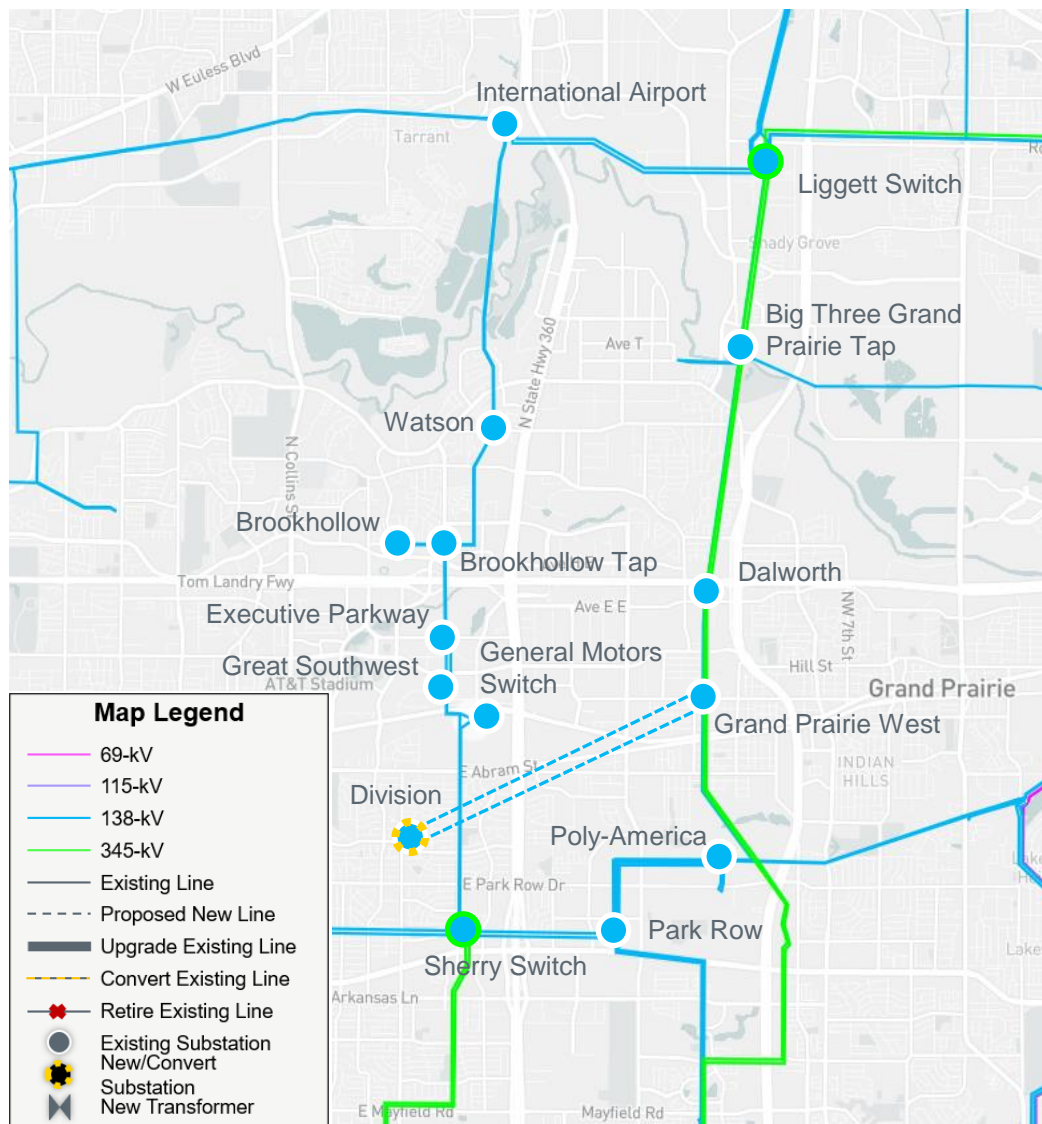
Option 1S - Proposed Project by Oncor

- Construct new 138-kV load-serving station (Division) between Sherry Switch and Great Southwest
- Construct new 0.6-mile Division to Executive Parkway/Sherry Switch 138-kV double circuit transmission line
- Construct new 2.4-mile Great Southwest to South of Grand Prairie West and General Motors Switch to South of Grand Prairie West 138-kV double circuit transmission line
- Add two 138-kV sectionalizing switches at Brookhollow



Option 2S - Alternative Project by Oncor

- Construct new 138-kV load-serving station (Division) between Sherry Switch and Great Southwest
- Construct new 3.6-mile Division to South of Grand Prairie West 138-kV double circuit transmission line



Preliminary Results of Reliability Assessment – Options

	N-1		G-1 + N-1		X-1 + N-1	
	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations	Thermal Violations	Voltage Violations
Option 1N	None	None	None	None	None	None
Option 1S	None	None	None	None	None	None
Option 2N	None	None	None	None	None	None
Option 2S	None	None	None	None	None	None

- ERCOT confirmed that the Oncor-preferred solution (option 1) sectionalizes the Arlington area in the event of an outage as reported by Oncor in their RPG submission

Conclusion

- ERCOT performed a need analysis on the study area (Arlington area) and evaluated the proposed transmission upgrade options provided by Oncor. ERCOT did not identify a need based on NERC or ERCOT planning criteria. ERCOT's evaluation of the proposed options found that the proposed options did not have an adverse effect on N-1 reliability in the study area
- Oncor proposed this project to address particular reliability exposure needs in the Arlington area. This submittal was not intended to meet the NERC or ERCOT planning criteria. ERCOT does not endorse this project

Thank you!



Stakeholder comments also welcomed through:

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Appendix A – Transmission Projects

- List of transmission projects added to study base case

TPIT No	Project Name	Tier	Project ISD	TSP	County
70012	West Weatherford to Oran Voltage Conversion	Tier 4	Jun-24	BEPC	Palo Pinto
70019	Add 138kV Locust-Hickory line 700MVA	Tier 4	Jun-24	DENTON	Denton
70824	Lavender 138 kV Switch	Tier 4	Dec-23	ONCOR	Dallas
71130	Centerville Switch - Lake Hubbard Switch 138 kV Double-Circuit Line	Tier 4	May-25	ONCOR	Dallas
71136	Waxahachie-Waxahachie OCF 69 kV Line Rebuild	Tier 4	May-25	ONCOR	Dallas
71156	Ennis West Switch-Waxahachie Switch 138 kV Line Rebuild	Tier 4	Dec-24	ONCOR	Ellis
71985	Northlake 138 kV Switch	Tier 3	Dec-24	ONCOR	Dallas
71995	Weatherford West 138 kV Switch Terminal Equipment	Tier 4	Dec-23	ONCOR	Parker
71997	Collin Autotransformer #2 tertiary reactors	Tier 4	Dec-23	ONCOR	Collin
72002	Anna Autotransformer #2 tertiary reactors	Tier 4	Dec-23	ONCOR	Collin
72647	Add_Blue_Ridge_Load	Tier 4	Jan-24	RYBRN	Collin
72649	Add_Celina_Load	Tier 4	Oct-23	RYBRN	Collin
66218A	Hillsboro - Italy 69 kV Line	Tier 4	Dec-23	ONCOR	Ellis

Appendix A – Transmission Projects (cont.)

TPIT No	Project Name	Tier	Project ISD	TSP	County
66218B	Hillsboro - Italy 69 kV Line	Tier 4	May-25	ONCOR	Ellis
66492B	Chico West - Oran Switch 69 kV Line rebuild	Tier 4	Dec-25	ONCOR	Jack
70900A	Roanoke Area Upgrades	Tier 1	May-24	ONCOR	Tarrant
70900B	Roanoke Area Upgrades	Tier 1	Dec-24	ONCOR	Tarrant
70900C	Roanoke Area Upgrades	Tier 1	Dec-25	ONCOR	Tarrant
70900D	Roanoke Area Upgrades	Tier 1	Dec-25	ONCOR	Tarrant
70900E	Roanoke Area Upgrades	Tier 1	May-25	ONCOR	Tarrant

Appendix B – Generation Projects

- List of generation projects added to the study base case

GINR	Project Name	Fuel	Project COD	Capacity (MW)	County
21INR0368	Eliza Solar	SOL	11/01/2024	151.9	Kaufman
21INR0458	Porter Solar	SOL	03/31/2024	245.83	Denton
21INR0492	Stockyard Grid Batt	OTH	03/29/2024	150.6	Tarrant
22INR0260	Eliza Storage	OTH	11/01/2024	100.2	Kaufman
22INR0327	Hummingbird Storage	OTH	02/24/2024	103.8	Denton
22INR0552	Sowers Storage	OTH	12/01/2024	200.83	Kaufman