



STEC Nueces Green Ammonia Load Interconnection Project – ERCOT Independent Review Status Update

Travis Head

RPG Meeting
January 16, 2026

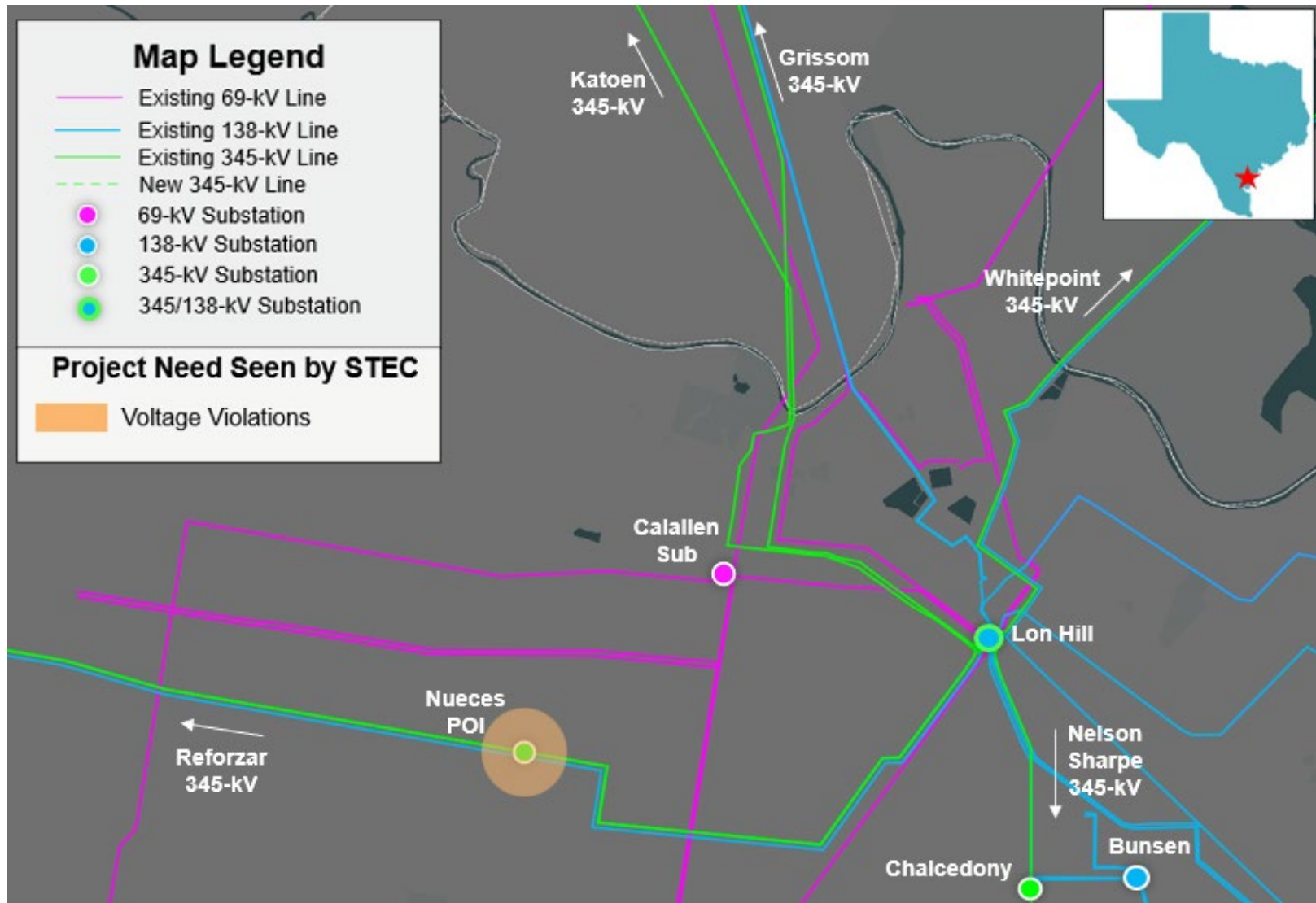
Introduction

- STEC submitted the Nueces Green Ammonia Load Interconnection Project for Regional Planning Group (RPG) review in June 2025
 - This is a Tier 2 project with an estimated cost of \$74.0 million and will require a Certificate of Convenience and Necessity (CCN)
 - Estimated in-service date (ISD) is June 2027
 - This project is needed to address post-contingency voltage violations in the Nueces County
- STEC presented a project overview and ERCOT provided a project scope at the July 2025 RPG Meeting
 - <https://www.ercot.com/calendar/07292025-RPG-Meeting>
- ERCOT provided a project update at the October, November and December 2025 RPG Meetings
 - <https://www.ercot.com/calendar/10282025-RPG-Meeting>
 - <https://www.ercot.com/calendar/11112025-RPG-Meeting-Webex>
 - <https://www.ercot.com/calendar/12162025-RPG-Meeting>

Introduction cont.

- This project is currently under ERCOT Independent Review (EIR)

Study Area Map with Project Need Seen by STEC



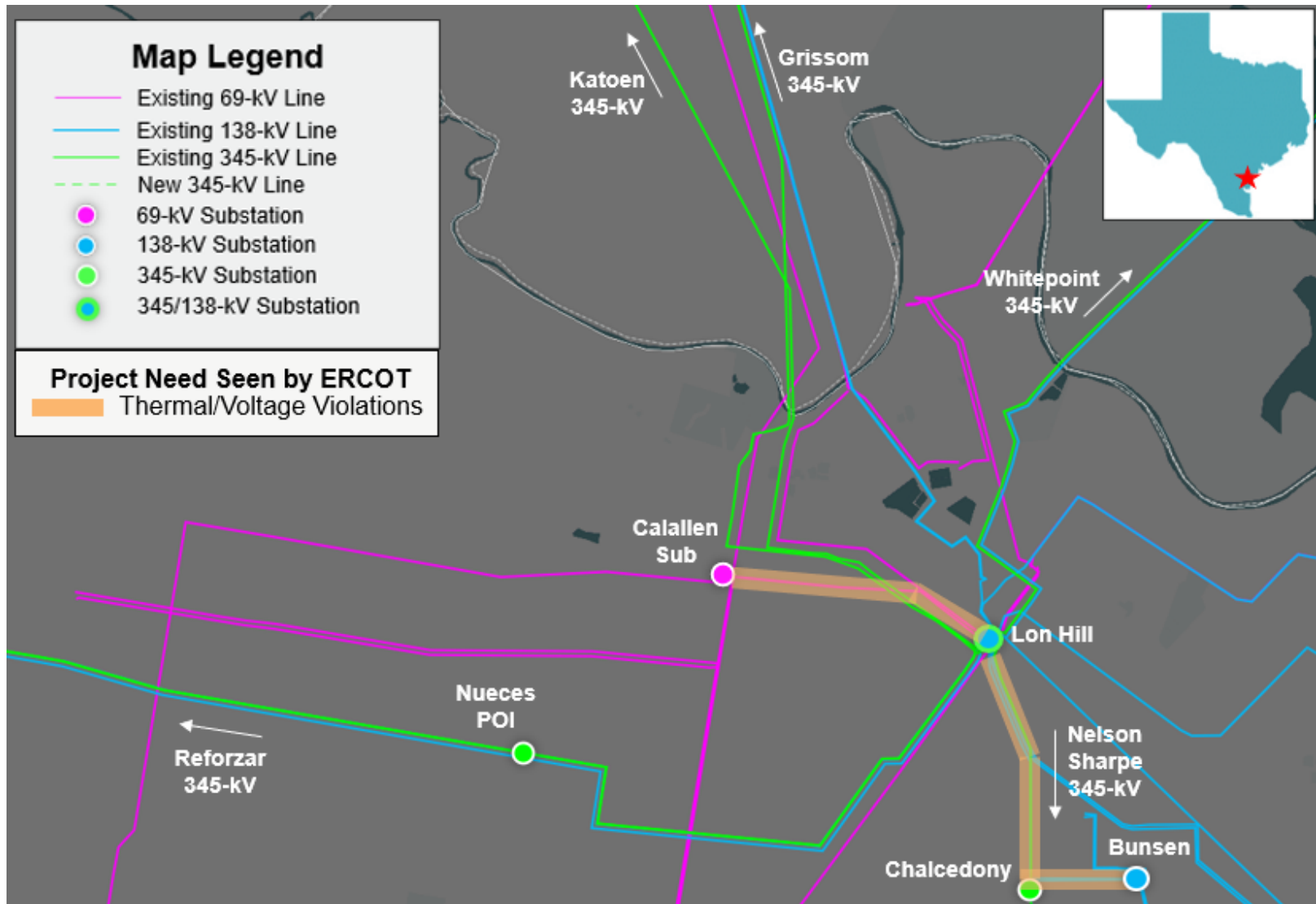
Recap – Preliminary Results of Reliability Assessment – Updated Base Case

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

*Violations seen in the basecase under P1 and P7 events were also seen under G-1+N-1 and/or X-1+N-1 events

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

Study Area Map with Project Need Seen by ERCOT



Option 1 – STEC Proposed Project

- Construct a new Nueces Load POI 345-kV substation cutting in on the existing Reforzar to Lon Hill 345-kV transmission line; and
- Loop in the new Nueces Load POI onto the existing Lon Hill to Grissom 345-kV transmission line using single-circuit structures, normal and emergency ratings of at least 1059 MVA and 1195 MVA respectively, approximately 5.9-mile.

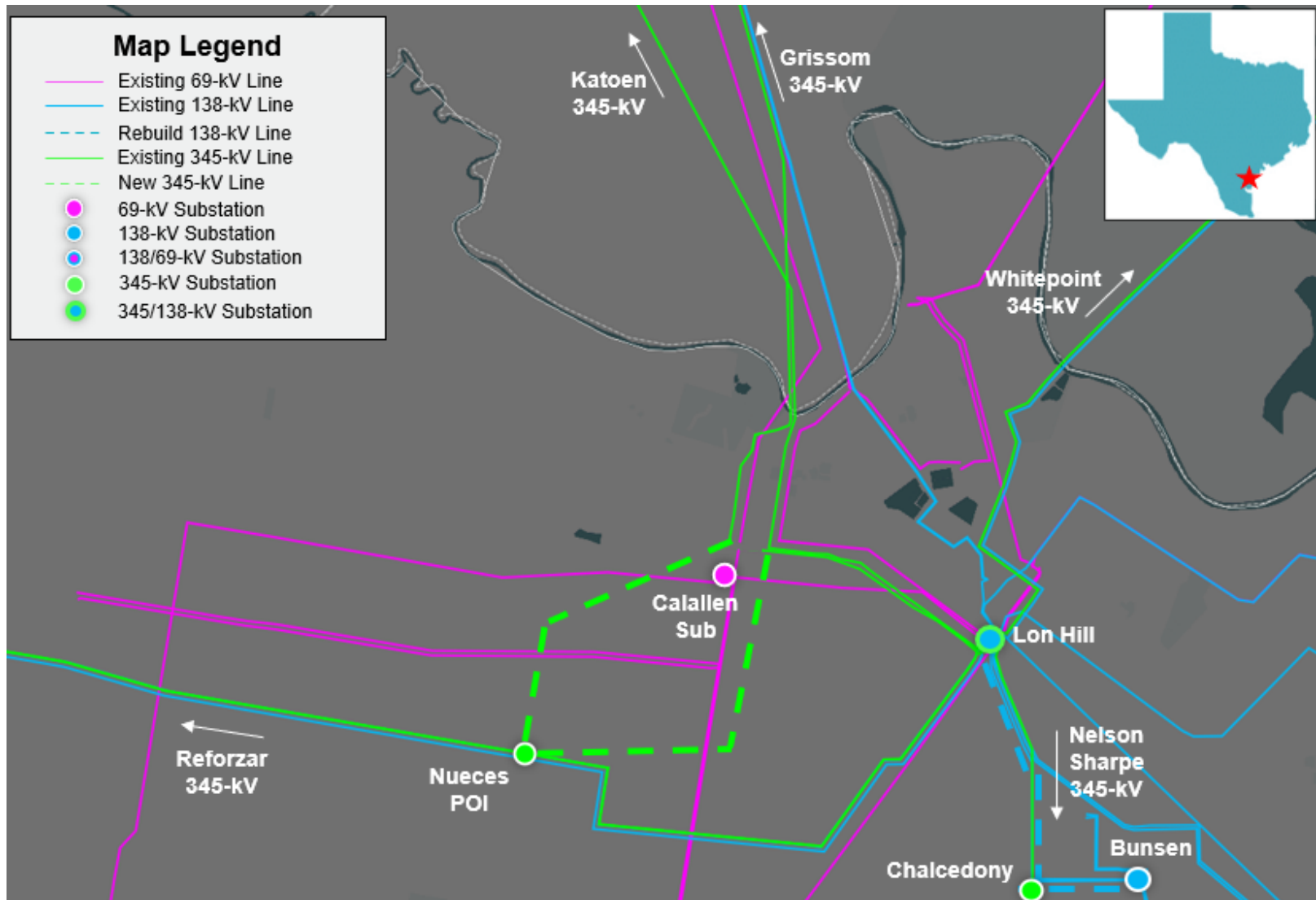
Option 1 – STEC Proposed Project



Option 1A – ERCOT Proposed Project

- Construct a new Nueces Load POI 345-kV substation cutting in on the existing Reforzar to Lon Hill 345-kV transmission line;
- Loop in the new Nueces Load POI onto the existing Lon Hill to Grissom 345-kV transmission line using single-circuit structures, normal and emergency ratings of at least 1059 MVA and 1195 MVA respectively, approximately 5.9-mile;
- Rebuild the existing Lon Hill to Bunsen 138-kV transmission line on double-circuit structures with normal and emergency ratings of at least 400 MVA, approximately 2.6-mile.

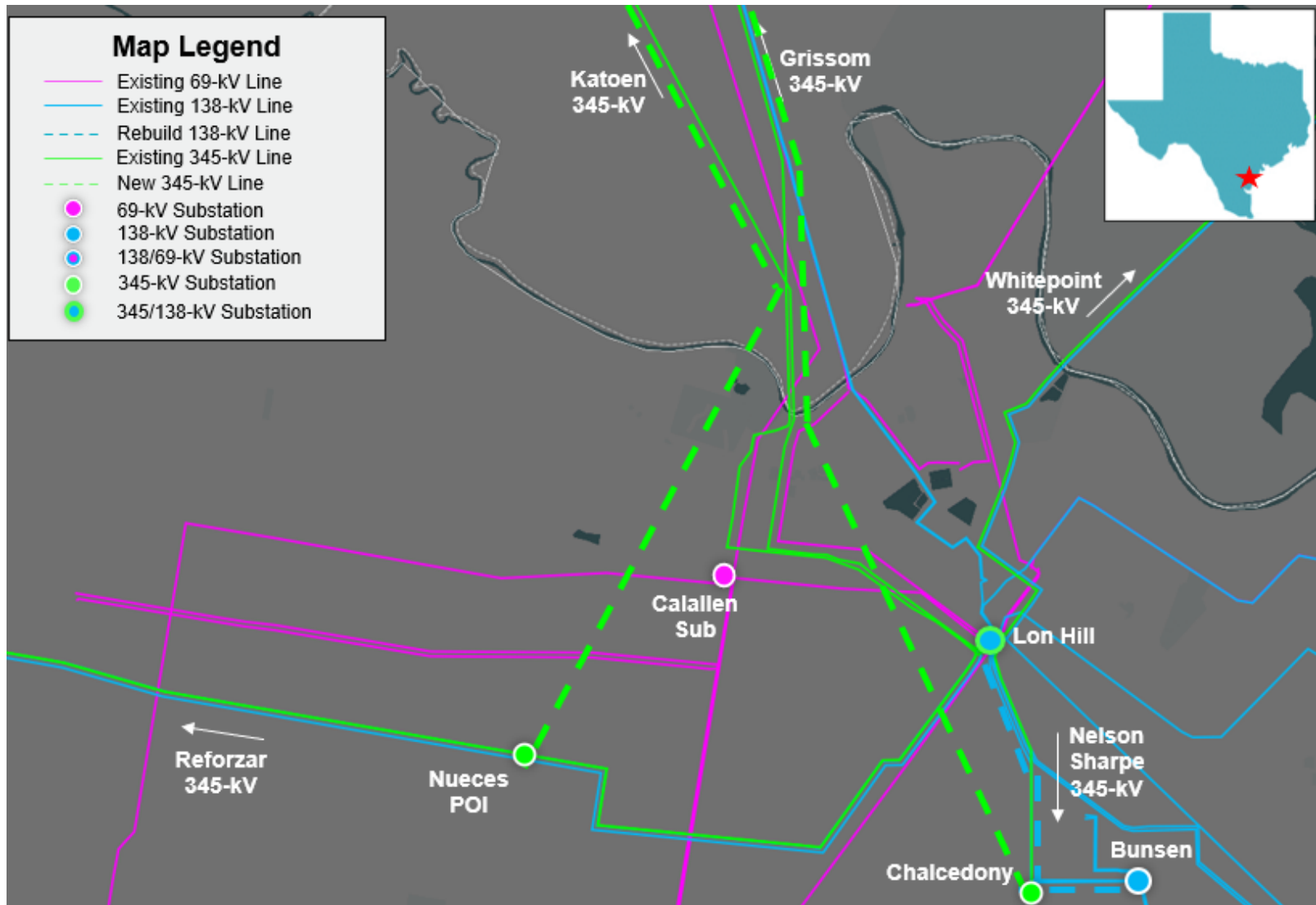
Option 1A – ERCOT Proposed Project



Option 2 – ERCOT Proposed Project

- Construct a new Nueces Load POI 345-kV substation cutting in on the existing Reforzar to Lon Hill 345-kV transmission line;
- Construct a new Grissom to Chalcedony 345-kV transmission line on double-circuit structures with normal and emergency ratings of at least 2000 MVA, approximately 33.46-mile;
- Construct a new Katoen to Nueces POI 345-kV transmission line on double-circuit structures with normal and emergency ratings of at least 2000 MVA, approximately 16.1-mile; and
- Rebuild the existing Lon Hill to Bunsen 138-kV transmission line on double-circuit structures with normal and emergency ratings of at least 400 MVA, approximately 2.6-mile.

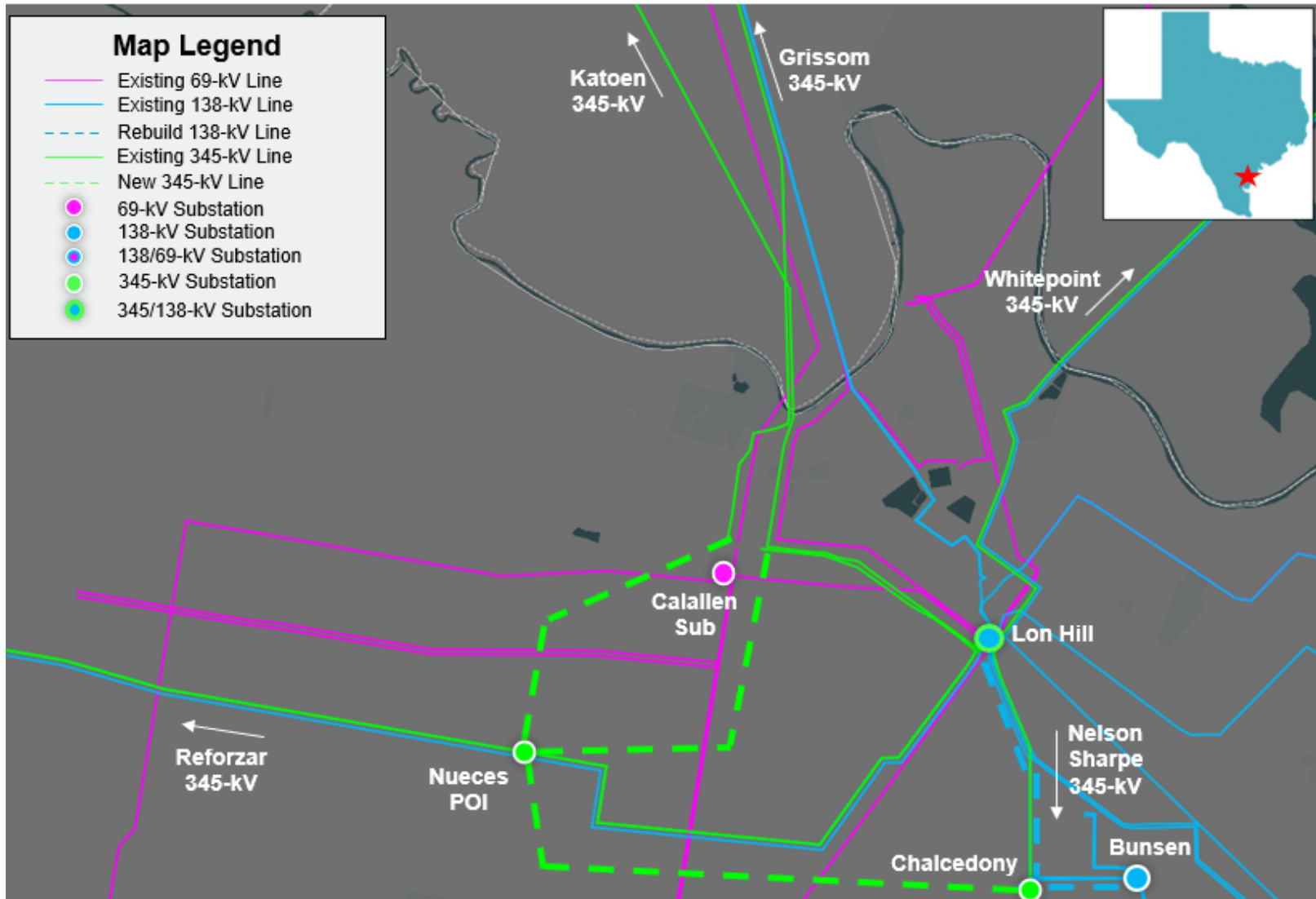
Option 2 – ERCOT Proposed Project



Option 3 – ERCOT Proposed Project

- Construct a new Nueces Load POI 345-kV substation cutting in on the existing Reforzar to Lon Hill 345-kV transmission line;
- Loop in the new Nueces Load POI onto the existing Lon Hill to Grissom 345-kV transmission line using single-circuit structures, normal and emergency ratings of at least 1059 MVA and 1195 MVA respectively, approximately 5.9-mile;
- Construct a new Chalcedony to Nueces Load POI 345-kV transmission line on double-circuit structures with normal and emergency ratings of at least 2000 MVA, approximately 4.5-mile; and
- Rebuild the existing Lon Hill to Bunsen 138-kV transmission line on double-circuit structures with normal and emergency ratings of at least 400 MVA, approximately 2.6-mile.

Option 3 – ERCOT Proposed Project



Recap – Preliminary Results of Reliability Assessment – Options

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

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

Preliminary Results of Planned Maintenance Outage Evaluation

- ERCOT conducted planned maintenance outage evaluation on the options
 - Load level in the South Weather Zone was scaled down to 89.2% of their summer peak loads in the study base case, respectively based on ERCOT load forecast and historical load, in order to mimic the off-peak load condition
 - N-2 contingencies were tested as a proxy for N-1-1. Any applicable violating contingencies were further tested with system adjustments
 - The transmission elements in the Nueces County were monitored in the maintenance outage evaluation
- Planned maintenance outage analysis results

Option	Voltage Violations	Thermal Overloads	Unsolved Power Flow
Base	2	1	1
1	1	1	1
1A	1	None	1
2	None	None	None
3	None	None	None

Long-Term Load-Serving Capability Assessment

- Adjusted load up in substations in the Study Area
- Adjusted conforming load down outside of the South Weather Zone to balance power
- Based on N-1 contingency limits

Option	Incremental Load-Serving Capability (~MW)
1	6.4
1A	66.4
2	21.8
3	633.4

Preliminary Cost Estimate and Feasibility Assessment

- Transmission Service Providers (TSPs) performed feasibility assessments and provided preliminary cost estimates for the four options

Option	Cost Estimates (~\$M)	CCN Required (~Miles)	Feasibility
1	111.5	Yes (5.9)	Yes
1A	123.4	Yes (5.9)	Yes
2	379.5	Yes (49.6)	Yes
3	161.1	Yes (10.4)	Yes

Comparison of Options

	Option 1	Option 1A	Option 2	Option 3
Meets ERCOT and NERC Reliability Criteria	No	No	Yes	Yes
Improves Long-Term Load-Serving Capability (~MW)	6.4	66.4	21.8	633.4
Requires CCN (~miles)	Yes (5.9)	Yes (5.9)	Yes (49.6)	Yes (10.4)
Project Feasibility	Yes	Yes	Yes	Yes
Cost Estimate* (~\$M)	111.5	123.4	379.5	161.1

*Cost estimates were provided by the TSP

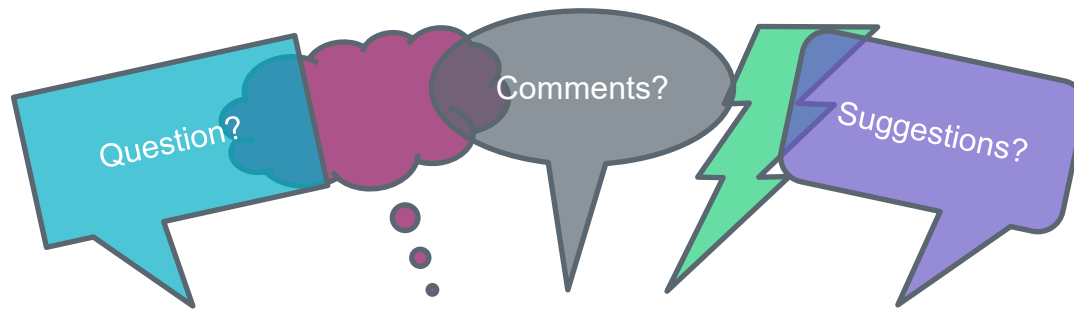
ERCOT Preferred Option

- Option 3 is selected as the ERCOT preferred option because it:
 - Addresses the project need in the study area
 - Improves Long-Term Load-Serving Capability
 - Requires the least amount of CCN mileage of the short-listed options
 - Is the least expensive option of the short-listed options

Next Steps and Tentative Timeline

- Additional analyses to be performed on the preferred option
 - Generation Addition and Load Scaling Sensitivity Analyses
 - Subsynchronous Oscillations (SSO) Assessment
 - Congestion Analysis to ensure that the identified transmission upgrades do not result in new congestion within the study area
 - Dynamics Assessment to ensure that the identified transmission upgrades do not result in system instability within the study area
- Tentative Timelines
 - Status updates at the future RPG meetings
 - Final recommendation – Q1 2026

Thank you!



Stakeholder comments also welcomed through:

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Appendix A – Transmission Projects Added

TPIT/RPG No	Project Name	Tier	Project ISD	TSP	County(s)
81686	Chalcedony: Construct New 345 kV Station	Tier 4	3/01/2028	AEP TCC	Nueces
91537	Starlite_Substation_Addition	Tier 4	12/01/25	LCRATSC	Nueces
93242	Saxet Substation Upgrade	Tier 4	6/01/2027	LCRATSC	Nueces
24RPG035	Aransas Pass to Rincon 69-kV Line Rebuild Project	Tier 2	1/01/2027	AEP TCC	San Patricio

Appendix B – Transmission Projects Removed

RTP Project ID	Project Name	TSP(s)	County(s)
2024-S1	Dupont Area 138-kV Line Upgrades	AEPSC	San Patricio, Nueces
2024-S3	San Diego Sub (5654) to Orange Groves Switch (5658) 69-kV Line Upgrade	STEC	Duval, Jim Wells
2024-S6	Seabird (84250) 138-kV Cap Bank Addition	AEPSC	San Patricio
2024-S8	Lon Hill Area 345-kV Upgrades	AEPSC	Kleberg
2024-S11	Caravel (85010) 138-kV Cap Bank Additions	AEPSC	Nueces
2024-S12	Lon Hill (8452) to Bunsen (8459) 138-kV Line Upgrade	AEPSC	Nueces
2024-S13	Nelson Sharpe 345/138-kV Transformer Addition	AEPSC	San Patricio
2024-S14	Naismith 345/138-kV Transformer Addition	AEPSC	Aransas, Calhoun, San Patricio

Appendix C – Generation Added

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
21INR0359	Hickerson Solar	SOL	11/21/2025	311.1	Bosque
22INR0239	Rockefeller Storage	BESS	06/01/2027	206.8	Schleicher
22INR0437	TORMES SOLAR	SOL	03/31/2027	382.1	Navarro
22INR0457	Anson BAT	BESS	08/01/2026	150.6	Jones
22INR0605	Camino Santiago Solar	SOL	02/18/2027	196.3	Milam
23INR0078	Shaw Solar	SOL	04/29/2026	124.7	Bandera
23INR0181	Starling Storage	BESS	05/15/2027	63.6	Gonzales
23INR0225	MRG GOODY SOLAR	SOL	05/02/2026	170.8	Lamar
23INR0538	Roadrunner Crossing BESS SLF	BESS	12/31/2025	150.4	Eastland
24INR0181	Bynum Solar Project	SOL	12/01/2025	56.0	Coryell
24INR0188	Tehuacana Creek Solar SLF	SOL	03/10/2027	505.5	Navarro
24INR0189	Tehuacana Creek BESS SLF	BESS	03/10/2027	419.0	Navarro
24INR0305	MRG Goody Storage	BESS	05/02/2026	52.3	Lamar
24INR0355	Anatole Renewable Energy Storage	BESS	03/31/2027	207.8	Henderson
24INR0364	Pitts Dudik II	SOL	02/04/2026	30.2	Hill

Appendix C – Generation Added Cont.

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
24INR0386	Black & Gold Energy Storage	BESS	06/30/2027	254.6	Menard
24INR0453	Longfellow BESS I	BESS	01/31/2026	55.0	Pecos
24INR0455	Longfellow BESS II	BESS	01/31/2026	105.8	Pecos
24INR0493	Crowned Heron BESS 2	BESS	03/31/2026	154.2	Fort Bend
24INR0528	Blanquilla BESS	BESS	05/15/2026	200.8	Nueces
24INR0533	Padua Grid BESS Unit 2	BESS	03/15/2026	150.9	Bexar
24INR0584	Houston IV BESS	BESS	06/03/2026	164.6	Harris
25INR0018	Yellow Cat Wind	WIN	04/01/2027	262.0	Navarro
25INR0199	Bonham Solar 1	SOL	08/31/2026	138.4	Limestone
25INR0229	OCI Cobb Creek Solar	SOL	12/01/2026	203.1	Hill
25INR0233	OCI Cobb Creek ESS	BESS	12/01/2026	201.6	Hill
25INR0391	Purple Sage BESS 1	BESS	05/30/2027	156.0	Collin
25INR0392	Purple Sage BESS 2	BESS	05/30/2027	156.0	Collin
26INR0034	Bracero Pecan Storage	BESS	04/01/2027	232.0	Reeves
26INR0296	Sherbino II BESS SLF	BESS	02/08/2026	77.4	Pecos

Appendix C – Generation Added Cont.

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
26INR0543	Three Canes Solar SLF	SOL	03/10/2027	333.0	Navarro
28INR0024	Padua Grid BESS Unit 3	BESS	05/15/2026	201.4	Bexar

Appendix D – G-1 Generators and X-1 Transformers

G-1 Generators	X-1 Transformers
Papalote Creek Wind II	Lon Hill X1 345/138-kV
El Algoden Alto W U1	Whitepoint X1 345/138-kV
Cranell Wind	Pawnee X1 345/138-kV