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Southern Spirit DC Tie Interconnection Study – ERCOT Study Scope

Ben Richardson

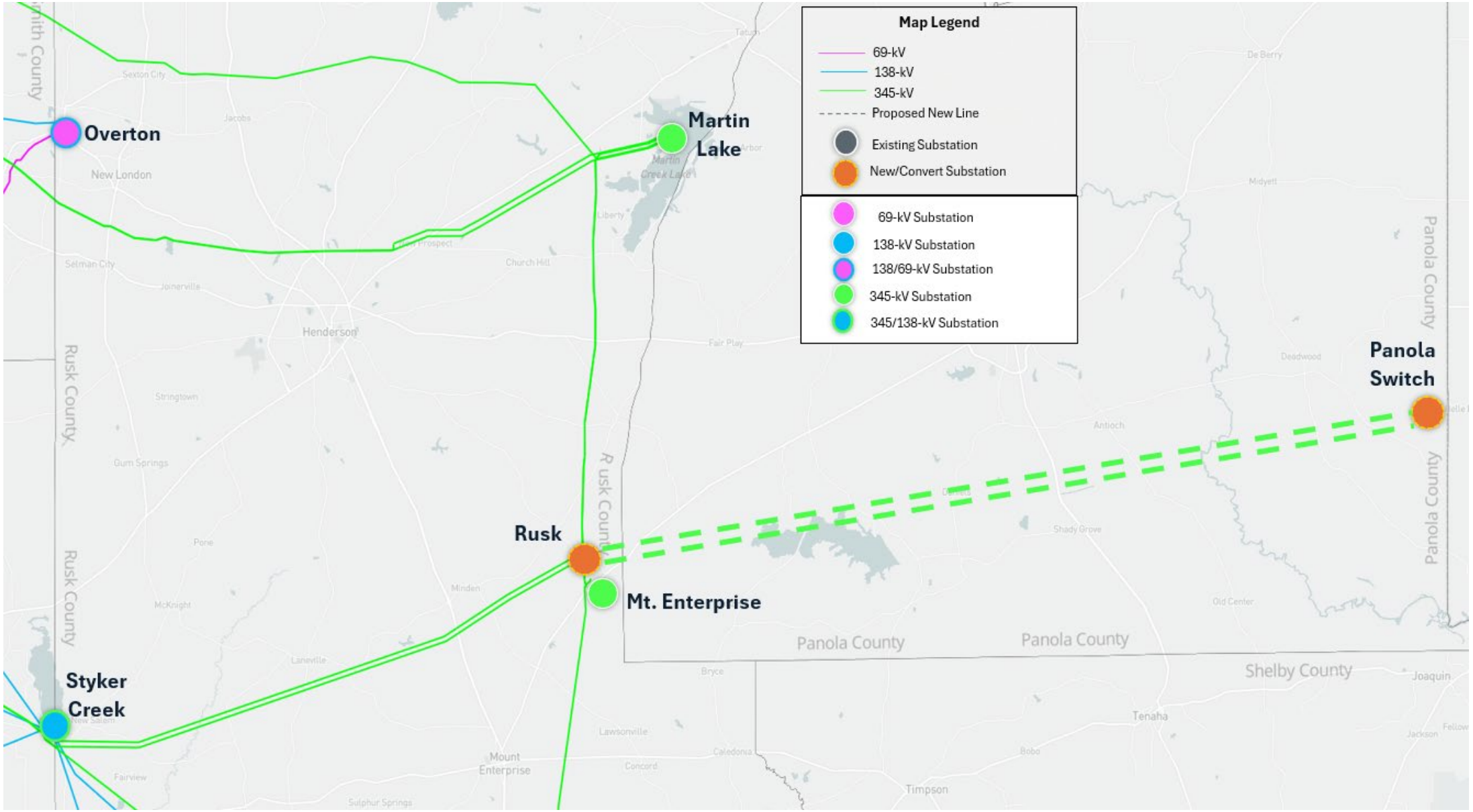
Regional Planning Group (RPG) Meeting
November 3, 2026

Introduction

- The objective of the updated Southern Spirit DC Tie (SST) interconnection; To identify steady-state and dynamic constraints and limits on import (up to 3,000 MW) and export (up to 3,150 MW) from/to Southern Spirit POI, respectively.
- Expected in-service year of SST: Q2 2031
- ERCOT issued a Request for Proposal (RFP) outlining Scope of Work in May 2026 and retained Electric Power Engineers (EPE) on August 28, 2026 to perform study

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Study Area Map with Project



Study Assumptions

Study Region

- The project is located in Rusk and Panola counties in the East Weather Zone and the bulk power system transmission elements within the area of concern (East, North-Central, and South-Central weather zones) were monitored

Steady-State Base Case

- Final 2025 Regional Transmission Planning (RTP) 2031 summer peak load case and the 2028 minimum load case, published on Market Information System (MIS) on December 22, 2025, will be updated to construct the study base case

Transmission Updates

- New transmission projects (listed in Appendix A1), based on July 2026 Transmission Project and Information Tracking (TPIT) report and/or recently approved RPG project, will be added to the study base case
- Transmission projects (listed in Appendix A2) identified in the 2025 RTP in the study area that have not been approved by RPG will be removed

Generation Updates

- New generation (listed in Appendix B) that met ERCOT Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before the Summer 2031 (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 the August 2026 Generator Interconnection Status (GIS) report published in MIS in July 2026
- All generation will be dispatched consistent with the 2025 RTP methodology

Load and Reserve Updates

- Load level in the study region will be kept consistent with the final RTP cases; and
- The reserve will be kept consistent with the 2025 RTP

Dynamic Analysis

Dynamic Base Cases

- 2025/2026 DWG cases, released in February 2026, were used:
  - 2029 HRML Case
  - 2032 Summer Peak Case

Case Updates: Topology, Additional generation, and HVDC dynamic model

- Major transmission lines, consistent with the topology in the updated steady-state cases, were modeled primarily within the area of concern (East, North-Central, and South-Central weather zones)
- Generation meeting PG 6.9, consistent with the updated steady-state cases, was modeled primarily within the area of concern
- HVDC model provided by Pattern Energy (Hitachi Energy USA Inc.) was used to study both import and export scenarios

Contingencies & Criteria

Contingencies for Study Region

- North American Electric Reliability Corporation (NERC) Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria
  - P0 (System Intact)
  - P1, P2-1, P7 (N-1 conditions)
  - P2-2, P2-3, P4, and P5 (Extra High Voltage (EHV) only)
  - P3 (G-1+N-1) {G-1: list in Appendix C}
  - P6-2 (X-1+N-1) {X-1: list in Appendix C}
  - P6 for dynamic analysis

Criteria

- Monitor all 100-kV and above buses, 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
  - Flag deviations exceeding 8% on non-radial load buses

Dynamic performance

- Consistent with North American Electric Reliability Corporation (NERC) Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria

Deliverables and Next Step

Tentative Timelines

- Provide status updates at the future RPG meetings
- ERCOT recommendation in Q4 2026

Key Takeaway: ERCOT recommendation in Q4 2026

Thank you!

Questions/Comments?

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Appendix

- Appendix A1: Transmission Projects Added
- Appendix A2: Transmission Projects Removed
- Appendix B: Generation Projects to be Added
- Appendix C: G-1 Generators and X-1 Transformers List to be Tested

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Appendix A1: Transmission Projects Added

TPIT / RPG No	Project Name	Tier	Project ISD	County(s)
25RPG033	Skyview 345/138 kV Switch project	2	May 2027	Dallas, Tarrant
25RPG009	Muscovy and Voss Lake 345/138-kV Project	1	Dec 2028	Williamson, Milam
25RPG004	Southern DFW Load Interconnection and General Grid Strengthening Project	1	Oncor: May 2026 to April 2033Brazos: December 2028Lone Star: June 2030, April 2033	Dallas, Ellis
25RPG042	Set 2 North and Central Texas Reliability Project	1	2028 - 2034	Fannin, Lamar, Delta, Titus, Franklin, Hopkins, Hunt, Collins, Denton
25RPG043	Set 2 North Central and South-Central Texas Reliability Project	1	2028 - 2034	Smith, Hill, McLennan

Appendix A2: Transmission Projects Removed

RTP Project ID	Project Name	County(s)
25RPG041	Set 1 North Central and South-Central Texas Reliability Project Group 3	Bell, Falls, McLennan, Hill, Limestone, Navarro, Henderson, Millam
25RPG043	Set 2 North Central and South-Central Texas Reliability Project Group 3	Smith, Hill, McLennan

Appendix B: Generation Projects to be Added

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
25INR0706	Bocanova Power II	OTH	08/31/26	150.5	Brazoria
26INR0309	Solace Storage	OTH	09/01/26	321.8	Haskell
26INR0310	Quantum Storage	OTH	09/01/26	321.8	Haskell
21INR0207	Quantum Solar	SOL	09/01/26	321.7	Haskell
25INR0055	Three W Solar	SOL	09/04/26	110.9	Hill
22INR0504	Barton Branch IA	OTH	10/01/26	203.6	Robertson
22INR0503	Tidwell Prairie II Batt	OTH	10/26/26	203.6	Robertson
24INR0042	Yaupon Solar SLF	SOL	11/18/26	200.8	Milam
22INR0499	Aquilla Lake 3 Wind	WIN	11/20/26	297.4	Hill
22INR0262	Sequoia II Solar	SOL	11/21/26	417.5	Callahan
19INR0002	Grandfalls Solar	SOL	11/25/26	175.6	Upton
24INR0303	Erika Solar	SOL	11/25/26	200.5	Kaufman
28INR0154	Pamela Heights I	OTH	12/18/26	101.7	Harris
26INR0250	Duffy BESS	OTH	12/31/26	241.1	Matagorda
25INR0168	Piedra Solar	SOL	01/15/27	281.7	Freestone
25INR0101	Drake BESS	OTH	01/29/27	257.3	Collin
21INR0362	Oystercatcher Solar	SOL	01/29/27	198.4	Ellis
26INR0622	Buffalo Gap 1 Wind Repower	WIN	02/01/27	120.2	Taylor
26INR0625	Buffalo Gap 2 Wind Repower	WIN	02/01/27	231.5	Nolan
26INR0626	Buffalo Gap 3 Wind Repower	WIN	02/01/27	168.5	Taylor

Appendix B: Generation Projects to be Added (Cont.)

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
24INR0210	Raven Storage	OTH	02/01/27	103.5	Wharton
24INR0274	Bufflehead BESS	OTH	02/15/27	153.8	Collin
26INR0111	Graphic Packaging Gas	GAS	02/15/27	43.4	McLennan
24INR0136	Eagle Springs Storage	OTH	02/23/27	33.9	Delta
24INR0137	Eagle Springs Solar	SOL	02/23/27	77.2	Delta
27INR0181	Elk Unit 4	GAS	02/28/27	210.0	Hale
27INR0367	Goat Mountain Wind-Repower	WIN	03/01/27	303.2	Sterling
26INR0201	Rock Rose BESS	OTH	03/19/27	208.5	Fort Bend
24INR0155	Lupinus Storage 2	OTH	04/03/27	124.6	Franklin
24INR0154	Lupinus Solar 2	SOL	04/03/27	242.3	Franklin
24INR0331	Chisme Storage	OTH	04/13/27	150.7	Brown
24INR0333	Chisme Solar	SOL	04/13/27	147.0	Brown
23INR0207	El Patrimonio Solar	SOL	04/29/27	152.3	Bexar
25INR0432	Brotherton Storage	OTH	05/01/27	176.1	Anderson
21INR0371	Pecan Prairie South	SOL	05/01/27	133.0	Leon
21INR0428	Pecan Prairie North	SOL	05/01/27	324.1	Leon
26INR0647	Wake Wind Energy Repower	WIN	05/10/27	252.5	Crosby
22INR0454	Wallace Solar	SOL	05/14/27	36.0	Culberson
25INR0189	Staccato BESS	OTH	05/28/27	201.8	Fayette
23INR0421	Bee Branch IA	OTH	06/01/27	203.8	Robertson

Appendix B: Generation Projects to be Added (Cont.)

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
26INR0726	Roadrunner Crossing Wind (Uprate)	WIN	06/30/27	7.3	Eastland
23INR0232	Hoke Storage	OTH	07/05/27	33.2	Gonzales
23INR0231	Hoke Solar	SOL	07/05/27	95.3	Gonzales
25INR0417	Mesa View Storage	OTH	07/15/27	254.9	Upton
22INR0605	Camino Santiago Solar	SOL	09/01/27	196.3	Milam
26INR0380	Pepper Solar Farm	SOL	09/20/27	120.7	McLennan
26INR0033	Fairway Storage	OTH	09/24/27	120.3	Freestone
28INR0413	Tolivar Power Plant Phase 2	GAS	09/29/27	224.5	Reeves
25INR0169	Piedra BESS	OTH	12/01/27	103.7	Freestone
27INR0313	Spindletop Solar	SOL	12/29/27	286.4	Nacogdoches
26INR0726	Roadrunner Crossing Wind (Uprate)	WIN	06/30/27	7.3	Eastland
23INR0232	Hoke Storage	OTH	07/05/27	33.2	Gonzales
23INR0231	Hoke Solar	SOL	07/05/27	95.3	Gonzales
25INR0417	Mesa View Storage	OTH	07/15/27	254.9	Upton
22INR0605	Camino Santiago Solar	SOL	09/01/27	196.3	Milam
26INR0380	Pepper Solar Farm	SOL	09/20/27	120.7	McLennan
26INR0033	Fairway Storage	OTH	09/24/27	120.3	Freestone
28INR0413	Tolivar Power Plant Phase 2	GAS	09/29/27	224.5	Reeves
25INR0169	Piedra BESS	OTH	12/01/27	103.7	Freestone
27INR0313	Spindletop Solar	SOL	12/29/27	286.4	Nacogdoches

Appendix B: Generation Projects to be Added (Cont.)

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
25INR0430	Hackberry Creek Solar	SOL	01/01/28	175.5	Mitchell
25INR0368	Echols Grove Solar	SOL	01/28/28	201.6	Lamar
26INR0116	Falcon Zapata Storage 138	OTH	03/11/28	200.8	Zapata
24INR0485	Rutile BESS	OTH	03/31/28	100.7	Runnels
26INR0098	Douie Solar	SOL	04/18/28	221.2	Freestone
22INR0350	Sandow Solar	SOL	06/01/28	287.2	Milam
26INR0440	Hamby Solar	SOL	06/27/28	205.8	Jones
25INR0112	August Draw Solar	SOL	06/27/28	250.0	Reeves
24INR0442	Midnight Sun Energy Storage	OTH	06/29/28	523.9	Crockett
29INR0003	Aurelius Solar	SOL	06/30/28	1124.2	Deaf Smith
25INR0430	Hackberry Creek Solar	SOL	01/01/28	175.5	Mitchell
25INR0368	Echols Grove Solar	SOL	01/28/28	201.6	Lamar
26INR0116	Falcon Zapata Storage 138	OTH	03/11/28	200.8	Zapata
24INR0485	Rutile BESS	OTH	03/31/28	100.7	Runnels
26INR0098	Douie Solar	SOL	04/18/28	221.2	Freestone
22INR0350	Sandow Solar	SOL	06/01/28	287.2	Milam
26INR0440	Hamby Solar	SOL	06/27/28	205.8	Jones
25INR0112	August Draw Solar	SOL	06/27/28	250.0	Reeves
24INR0442	Midnight Sun Energy Storage	OTH	06/29/28	523.9	Crockett
29INR0003	Aurelius Solar	SOL	06/30/28	1124.2	Deaf Smith

Appendix B: Generation Projects to be Added (Cont.)

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
29INR0004	Aurelius Wind	WIN	06/30/28	621.6	Deaf Smith
24INR0282	Royal River BESS	OTH	06/30/28	310.7	Brazoria
28INR0037	Bullring Wind 1	WIN	06/30/28	303.5	Starr
28INR0038	Bullring Wind 2	WIN	06/30/28	303.8	Starr
28INR0039	Bullring Wind 3	WIN	06/30/28	190.4	Starr
27INR0029	Short Creek BESS	OTH	07/01/28	155.7	Wichita
25INR0155	Nymphaea Storage	OTH	07/01/28	61.0	Wichita
25INR0154	Nymphaea Solar	SOL	07/01/28	120.9	Wichita
29INR0025	Skyrider Wind	WIN	07/01/28	370.0	Pecos
27INR0076	Bob Creek Wind	WIN	07/01/28	240.0	Sterling
28INR0072	Mirando Valley Wind	WIN	07/06/28	478.7	Jim Hogg
28INR0434	Viento Bravo Wind	WIN	07/06/28	366.5	Jim Hogg
28INR0176	Gail Mountain Solar	SOL	08/25/28	244.4	Borden
29INR0147	Selenite Springs Solar	SOL	08/30/28	253.0	Pecos
30INR0058	Springfield Solar	SOL	08/30/28	400.0	Pecos
28INR0094	Pham BESS	OTH	09/18/28	133.0	Anderson
27INR0465	Althea Storage	OTH	09/21/28	251.3	Maverick
27INR0389	Sugaree Solar	SOL	09/21/28	251.4	Maverick
21INR0265	Sisters Solar	SOL	09/23/28	100.5	Ector
29INR0009	Aurelius 2 Solar	SOL	09/30/28	445.4	Deaf Smith

Appendix B: Generation Projects to be Added (Cont.)

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
27INR0126	Corvus Solar	SOL	11/12/28	201.5	Webb
29INR0192	Spurland Solar I	SOL	12/30/28	302.1	Dickens
19INR0055	Monte Cristo II Wind	WIN	12/31/28	233.9	Hidalgo
27INR0383	Windjammer Windpower	WIN	12/31/28	244.1	Glasscock
29INR0040	Gusty Windpower	WIN	12/31/28	248.9	Glasscock
26INR0426	Maderagemela BESS1	OTH	02/01/29	154.0	Waller
26INR0425	Twinwood Solar 1	SOL	02/01/29	358.1	Waller
27INR0435	Clairemont Solar 1	SOL	02/13/29	251.8	Kent
27INR0224	Leopard BESS	OTH	02/28/29	264.2	Victoria
25INR0143	Ariji BESS	OTH	03/31/29	100.3	Howard
26INR0357	Operation Sunshine Storage	OTH	04/01/29	409.8	Concho
26INR0255	Operation Sunshine	SOL	04/01/29	603.2	Concho
28INR0013	Varadero Solar	SOL	04/01/29	206.0	Limestone
24INR0543	Thomas Cameron BESS	OTH	04/28/29	205.5	Lampasas
28INR0127	Half Moon Solar	SOL	07/01/29	512.5	Starr
26INR0531	West Munday Wind	WIN	08/31/29	351.9	Knox
30INR0018	Big Canyon Wind	WIN	07/01/30	1500.0	Pecos
24INR0514	Rogers Draw BESS	OTH	07/31/30	148.6	Gillespie

Appendix C: List of Generators and Transformers to be Tested

Generator	Transformer
Martin Lake Unit 2	Stryker Creek 345/138-kV Transformer #3
Stryker Creek SES Unit2	Lufkin Transformer 345/138-kV #3
Tenaska Gateway Unit 4	Shamburger Transformer 345/138-kV #1
Nacogdoches Generating Facility Unit 1	