



CNP Southwest Houston 345-kV Reliability Project – ERCOT Independent Review

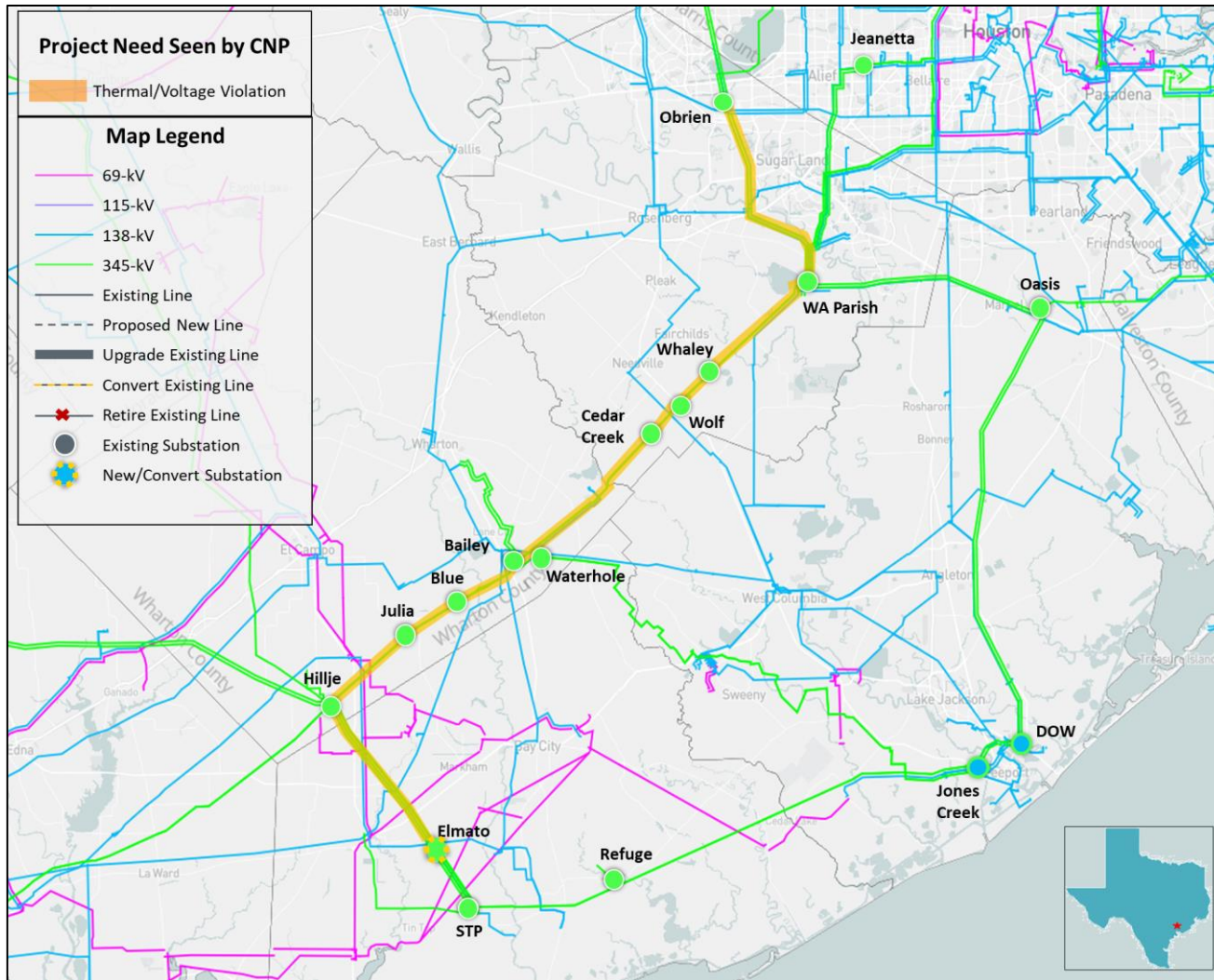
Abishek Penti

RPG Meeting
March 18, 2025

Introduction

- CNP submitted the Southwest Houston 345-kV Reliability Project for Regional Planning Group (RPG) review in October 2024
 - This Tier 1 project is estimated to cost \$569.3 million and will not require a Certificate of Convenience and Necessity (CCN)
 - Estimated in-service date (ISD) is Summer 2028
 - Addresses thermal overloads seen by CNP and 2023 RTP
- CNP provided an overview and ERCOT provided the study scope at the December 2024 RPG Meeting
 - <https://www.ercot.com/calendar/12162024-RPG-Meeting--Webex>
- ERCOT provided project updates at the February RPG Meeting:
 - <https://www.ercot.com/calendar/02242025-RPG-Meeting--Webex>
- This project is currently under ERCOT Independent Review (EIR)

Recap – Study Area Map with Violations seen by CNP



Recap – Study Assumptions – Load, Reserve, Transmission, & Generation

- 2023 Regional Transmission Planning (RTP) 2029 summer peak case for East and Coast (EC) Weather Zones was used as the start case
- Load in study area
 - Loads in Southern, Coast, North and North Central Weather Zones were updated to create the study base case
- Reserve
 - Reserve levels are consistent with the 2023 RTP
- Transmission
 - See Appendix A for a list of transmission projects added
 - See Appendix B for a list of RTP placeholder projects that were removed
- Generation
 - See Appendix C for a list of generation projects added
 - Slack bus moved from WAP5 to Martin lake 3

Recap - Preliminary Results of Reliability Assessment – Base Case

Contingency Category*	Unsolved Power Flow	Voltage Violations	Thermal Overloads
P1	None	None	None
P3 (G-1+N-1)*	None	None	None
P6.2 (X-1+N-1)*	None	None	None
P7	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 study base case
 - Load level in the Coast was scaled down to 85.5% 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 local area of the Southwest Houston 345-kV Reliability Project were monitored in the maintenance outage evaluation
- Planned maintenance outage analysis results

Voltage Violations	Thermal Overloads	Unsolved Power Flow
None	None	None

ERCOT Recommendation

- ERCOT did not identify a reliability need in the study area for the submitted RPG project
- ERCOT shall not recommend a project for this RPG Submission

Next Steps and Tentative Timeline

- Tentative Timelines
 - The EIR report will be posted in MIS in April 2025

Thank you!



Stakeholder comments also welcomed through:

Abishek.Penti@ercot.com

Robert.Golen@ercot.com

Appendix A – Transmission Projects

- List of RPG projects added to study base case

RPG/TPIT No	Project Name	Tier	Project ISD	County
22RPG037	West Columbia to Burke 138 kV ckt 02 Rebuild Project	Tier 4	Summer 2023	Brazoria, Fort Bend
22RPG038	Clute Substation Addition Project	Tier 3	Summer 2025	Brazoria
23RPG012	Stone Lake Area Upgrades Project	Tier 3	Summer 2024 Summer 2025	Harris
23RPG021	West Columbia to Big Creek ckt 89 Reconductor Project	Tier 4	Summer 2026	Fort Bend, Brazoria
23RPG025	Britmoore to Bellaire Ckt 24 Upgrade Project	Tier 3	Summer 2025	Harris
23RPG031	345 kV Jeanetta Autotransformer Upgrades Project	Tier 3	Summer 2025	Harris
24RPG012	Clute to Velasco ckt 26 Upgrades Project	Tier 3	Summer 2026	Brazoria
24RPG026	Jordan/Mont Belvieu Area Improvement Project	Tier 3	Summer 2027	Chambers
24RPG030	Partial Rebuild of 138-kV Ckt.05A Sienna Tap to Missouri City Tap Project	Tier 4	12/1/2025	Fort Bend

Appendix A – Transmission Projects

- List of transmission projects added to study base case

RPG/TPIT No	Project Name	Tier	Project ISD	County
50890	Port Lavaca: Station Rebuild (Cangrejo)	Tier 1	May-26	Calhoun
81548/ 81553	Haber: Construct New 345 kV Station/ Haber: Construct New 345 kV Terminal	Tier 3	May-27	Victoria
58542B	CATTAIL_SUBSTATION	Tier 2	Mar-23	Galveston
66221	Galena Park Area Conversion Project	Tier 3	May-25	Harris
72044	Clute 138kV Switching Station	Tier 3	May-26	Brazoria
75835	Upgrade Ckt.66B Stone Lake to Tomball to increase thermal limits	Tier 3	Oct-26	Harris
78473	Odin (ODI) 138kV CEHE Substation	Tier 3	Jan-26	Brazoria
78485	Britmoore to Bellaire Ckt.24B Upgrades	Tier 3	May-26	Harris
78490	Jeanetta Auto Upgrades	Tier 3	May-25	Harris
85987	Upgrade Ckt.26 Clute to SINTEK to increase thermal limits	Tier 3	May-26	Brazoria

Appendix B – Transmission Projects

- List of transmission projects removed from the study base case

TPIT No	Project Name	County
2023-C1	North Rosenberg (944070) 345-kV Substation Addition and 345-kV Double-Circuit Line Additions from Whaley (44070) to North Rosenberg (944070) to Obrien (44500)	Fort Bend
2023-C4	South Texas Project (5915) to WA Parish (44000) 345-kV Line Upgrade	Matagorda, Wharton, Fort Bend
2023-SC18	El Campo Sub to Nada 69-kV Line Upgrade	Colorado, Wharton

Appendix C – New Generation Projects to Add

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
19INR0134	Cottonwood Bayou Solar	SOL	12/31/2024	351.4	Brazoria
20INR0155	Peyton Creek Wind II	WIN	02/14/2025	241.2	Matagorda
20INR0248	DAMAZO (Second Division) SOLAR	SOL	12/20/2024	100.2	Brazoria
20INR0208	Signal Solar	SOL	02/24/2025	51.8	Hunt
21INR0012	Air Products GCA	GAS	08/30/2024	14.0	Galveston
21INR0220	Maleza Solar	SOL	11/01/2025	254.9	Wharton
21INR0240	La Casa Wind	WIN	06/30/2025	148.4	Stephens
21INR0368	Eliza Solar	SOL	01/22/2025	151.7	Kaufman
21INR0379	Ash Creek Solar	SOL	03/28/2025	417.7	Hill
21INR0442	Myrtle Storage	BAT	12/31/2024	151.2	Brazoria
21INR0443	Cottonwood Bayou Storage	BAT	06/12/2025	153.0	Brazoria
21INR0450	Danish Fields Storage	BAT	12/31/2024	152.4	Wharton
21INR0492	Stockyard Grid Batt	OTH	12/31/2026	150.6	Tarrant
21INR0505	Ramsey Storage	BAT	12/31/2027	510.4	Wharton
21INR0515	Roadrunner Crossing Wind II SLF	WIN	01/31/2025	126.7	Eastland
22INR0260	Eliza Storage	OTH	03/11/2025	100.4	Kaufman
22INR0261	Dorado Solar	SOL	12/31/2025	401.4	Callahan
22INR0354	XE Murat [Adlong] Solar	SOL	01/03/2025	60.4	Harris
22INR0517	Lane City Wind	WIN	06/30/2025	199.5	Wharton
22INR0546	Enchanted Rock NEWPP	GAS	06/06/2025	30.0	Harris
22INR0552	Sowers Storage	OTH	04/10/2026	205.0	Kaufman
22INR0555	TE Smith Storage	OTH	07/15/2025	125.4	Rockwall

Appendix C – New Generation Projects to Add (cont.)

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
23INR0030	Langer Solar	SOL	03/01/2027	249.8	Bosque
23INR0044	Parliament Solar	SOL	05/12/2025	484.6	Waller
23INR0054	Tanglewood Solar	SOL	09/08/2025	251.0	Brazoria
23INR0070	Chillingham Solar	SOL	12/30/2024	352.4	Bell
23INR0079	Chillingham Storage	OTH	08/02/2025	153.9	Bell
23INR0091	Cascade Solar	SOL	01/16/2026	254.2	Brazoria
23INR0118	Blevins Solar	SOL	10/30/2025	271.6	Falls
23INR0119	Blevins Storage	OTH	07/27/2025	181.3	Falls
23INR0195	Desert Willow BESS	OTH	03/20/2025	154.4	Ellis
23INR0299	Anole BESS	OTH	05/30/2025	247.1	Dallas
23INR0336	Bypass Battery Storage	BAT	12/15/2025	207.9	Fort Bend
23INR0349	Tokio Solar	SOL	08/25/2027	170.5	McLennan
23INR0358	Castor BESS	BAT	06/01/2025	205.4	Brazoria
23INR0367	Fewell Solar	SOL	03/15/2027	203.5	Limestone
23INR0419	SOHO BESS	BAT	06/28/2025	206.3	Brazoria
23INR0425	Coneflower Storage Project	BAT	02/03/2027	178.9	Chambers
23INR0460	PHOTON BESS1	BAT	12/20/2024	152.7	Wharton
23INR0469	Big Elm Storage	OTH	08/15/2026	100.8	Bell
24INR0010	Pinnington Solar	SOL	04/30/2026	653.7	Jack
24INR0015	Five Wells Solar	SOL	01/30/2025	322.8	Bell
24INR0023	Compadre Solar	SOL	12/25/2024	406.1	Hill

Appendix C – New Generation Projects to Add (cont.)

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
24INR0038	PP Jaguar Solar	SOL	02/11/2027	300.0	McLennan
24INR0039	PP Jaguar BESS	OTH	06/30/2025	314.3	McLennan
24INR0093	Oriana Solar	SOL	04/06/2025	181.0	Victoria
24INR0109	Oriana BESS	BAT	06/15/2026	60.3	Victoria
24INR0128	Desna BESS	BAT	06/01/2025	205.5	Brazoria
24INR0138	Midpoint Storage	OTH	08/30/2025	50.9	Hill
24INR0139	Midpoint Solar	SOL	08/30/2025	98.3	Hill
24INR0140	Gaia Storage	OTH	12/23/2025	76.8	Navarro
24INR0141	Gaia Solar	SOL	12/23/2025	152.7	Navarro
24INR0166	Stillhouse Solar	SOL	09/01/2025	212.6	Bell
24INR0265	Jarvis BESS	BAT	01/28/2025	308.4	Brazoria
24INR0281	Red Egret BESS	BAT	08/01/2025	310.6	Galveston
24INR0295	Lucky Bluff BESS SLF	OTH	10/15/2025	100.8	Erath
24INR0315	Black Springs BESS SLF	OTH	10/15/2025	120.7	Palo Pinto
24INR0329	XE Murat Storage	BAT	03/01/2025	60.1	Harris
24INR0337	Eldora Solar	SOL	06/30/2026	200.9	Matagorda
24INR0338	Eldora BESS	BAT	06/30/2026	201.3	Matagorda
24INR0395	Berkman Storage	BAT	04/30/2027	150.9	Galveston
24INR0397	Destiny Storage	BAT	01/31/2026	205.6	Harris
24INR0405	Crowned Heron BESS	BAT	07/31/2025	154.2	Fort Bend

Appendix C – New Generation Projects to Add (cont.)

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
24INR0456	FRIENDSWOOD ENERGY GENCO	GAS	07/01/2025	143.7	Harris
24INR0460	Evelyn Battery Energy Storage System	BAT	05/06/2025	221.3	Galveston
24INR0493	Crowned Heron BESS 2	OTH	07/31/2025	154.2	Fort Bend
24INR0605	TEXAS GULF SULPHUR REPOWER	GAS	06/25/2024	16.1	Wharton
24INR0631	Radian Storage SLF	OTH	02/21/2025	160.3	Brown
25INR0105	Diver Solar SLF	SOL	06/30/2026	225.6	Limestone
25INR0162	SOHO II BESS	BAT	03/02/2026	206.3	Brazoria
25INR0231	Apache Hill BESS	OTH	11/15/2026	201.2	Hood
25INR0232	Isaac Solar	SOL	03/31/2026	51.6	Matagorda
25INR0271	City Breeze BESS	BAT	07/15/2026	140.6	Matagorda
25INR0300	Wizard BESS	BAT	05/01/2025	150.8	Galveston
25INR0328	Longbow BESS	BAT	11/09/2024	180.8	Brazoria
25INR0421	Aldrin 138 BESS	BAT	03/01/2026	207.0	Brazoria
25INR0467	Bocanova Power	OTH	07/19/2025	150.5	Brazoria
25INR0691	PHOTON BESS2	BAT	11/28/2025	152.7	Wharton
26INR0042	Valhalla Solar	SOL	05/31/2026	306.8	Brazoria
23INR0057	Duffy Solar	SOL	12/31/2027	502.5	Matagorda

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

G-1 Generators	X-1 Transformers
WA Parish Unit 6	Meadow – Ckt 1 345/138-kV
WA Parish Unit 8	Obrien– Ckt 1 345/138-kV
Cedar Bayou Unit 2	Zenith – Ckt 1 345/138-kV
	Wharton –Ckt 1 345/138-kV
	Addicks – Ckt 1 345/138-kV
	North Belt – Ckt 345/138-kV
	Rothwood – Ckt 1 345/138-kV
	Tombal – Ckt 1 345/138-kV
	White Oak – CKt 345/138-kV
	Bellaire – Ckt 1 345/138-kV
	Jeanetta – Ckt 1 345/138-kV
	Shamburger Switch – Ckt 1 345/138-kV
	Blessing – Ckt 1 345/138-kV
	Baytown Energy Center Oak – Ckt 1 345/138-kV
	Oak Grove – Ckt 1 345/138-kV
	Dow – Ckt 1 345/138-kV
	Jones Creek – Ckt 1 345/138-kV
	PH Robinson – Ckt 1 345/138-kV