



**BTU Texas A&M University System RELLIS
Campus Reliability Project – ERCOT
Independent Review Scope**

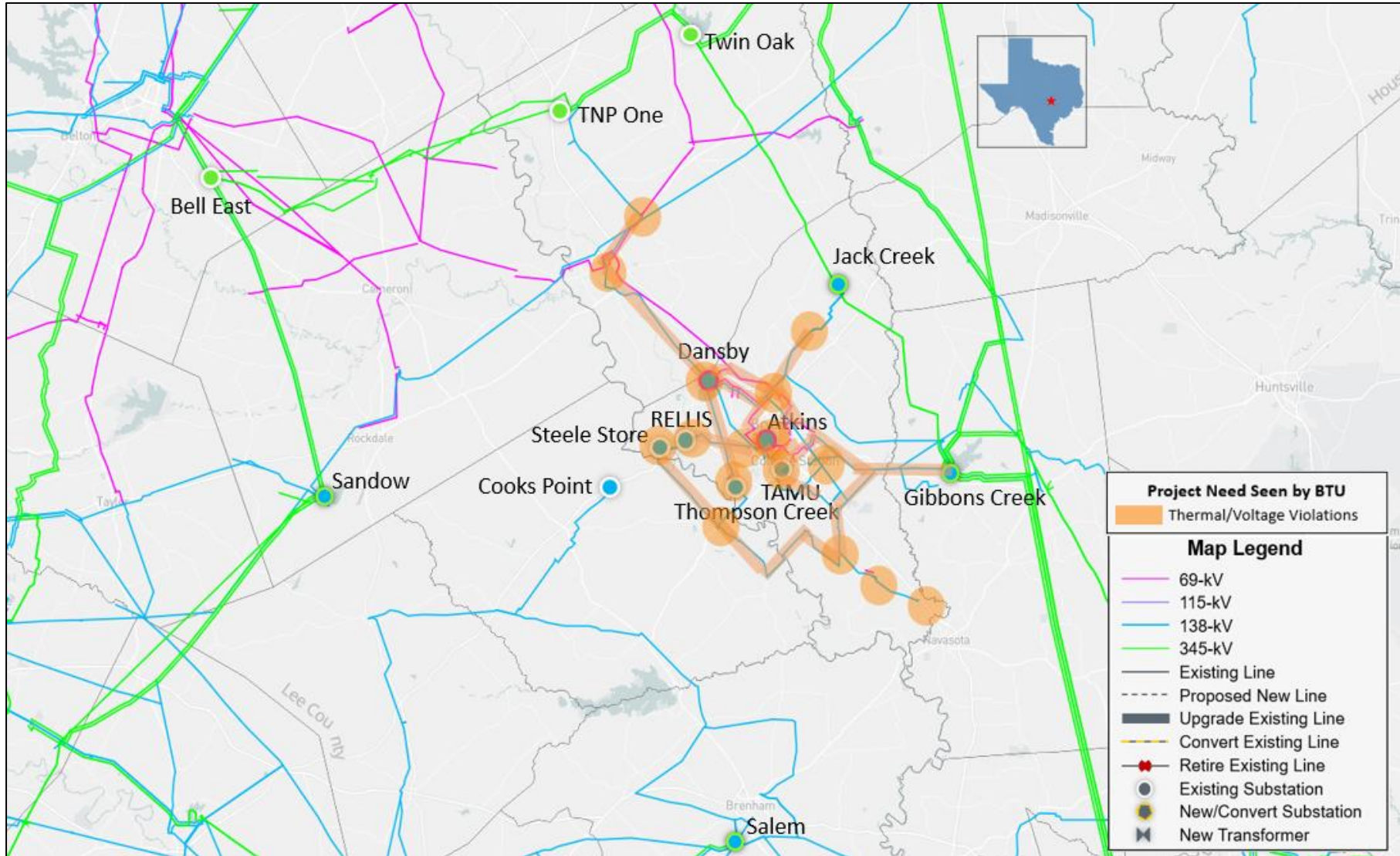
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RPG Meeting
March 18, 2025

Introduction

- Bryan Texas Utilities (BTU) submitted the Texas A&M University System RELLIS Campus Reliability Project for Regional Planning Group (RPG) review in January 2025
 - This Tier 1 project is estimated to cost \$271.5 million and will require a Certificate of Convenience and Necessity (CCN) filing
 - Estimated in-service date (ISD) is May 2029
 - Addresses the thermal overloads and voltage violations due to proposed load additions in the Brazos County in the East weather zone
- This project is currently under ERCOT Independent Review (EIR)

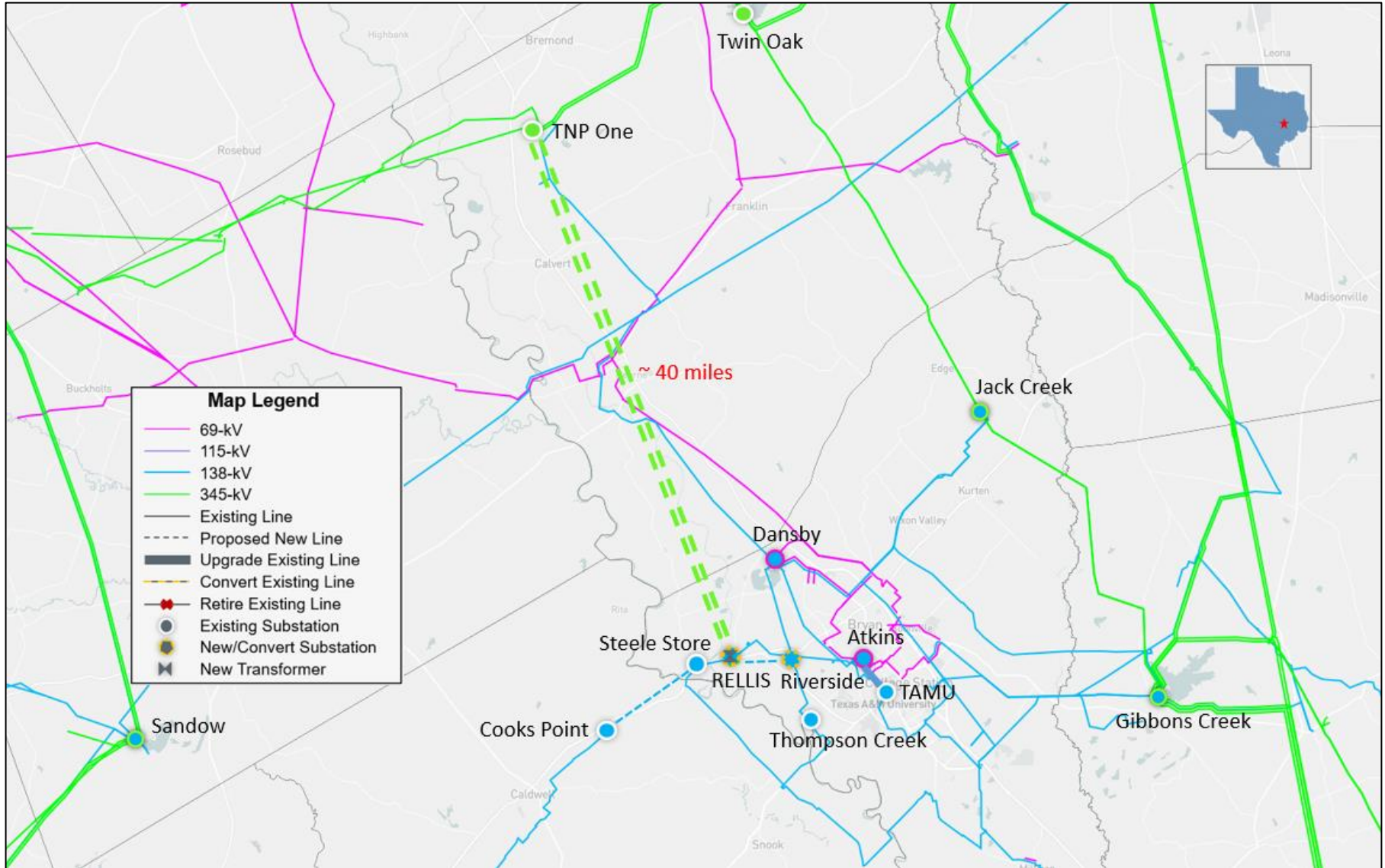
Study Area Map with Violations Seen by BTU



Project Proposed by BTU

- Expand the existing RELLIS 138-kV substation to establish a new RELLIS 345/138-kV switchyard by installing four additional 138-kV breakers in the existing 138-kV ring bus and adding four 345-kV breakers in a ring bus configuration
 - Install two 345/138-kV autotransformers with normal and emergency rating of at least 600 MVA for each transformer
 - Install two capacitor banks (54 MVAR each) at RELLIS 138-kV substation
- Construct a new TNP One to RELLIS 345-kV double-circuit transmission line on double-circuit capable structures with both circuits in place with normal and emergency rating of at least 1765 MVA for each circuit, approximately 40 miles
- Construct a new Riverside 138-kV switching station by cutting into the existing Dansby to Thompson Creek 138-kV line using a 3-breaker ring bus configuration
- Construct a new RELLIS to Riverside 138-kV transmission line on double-circuit capable structures with one circuit in place with normal and emergency rating of at least 495 MVA, approximately 6.1 miles
- Construct a new Steele Store to Cooks Point 138-kV transmission line on single-circuit structures with normal and emergency rating of at least 440 MVA, approximately 7.2 miles
- Re-build the existing Atkins to TAMU 138-kV single-circuit line on double-circuit capable structures with one circuit in place with normal and emergency rating of at least 495 MVA, approximately 3.3 miles

Project Proposed by BTU



Study Assumptions – Base Case

- Study Region
 - East Weather Zone, focusing on the transmission elements in the Brazos and surrounding counties
- Steady-State Base Case
 - Final 2024 Regional Transmission Planning (RTP) 2030 summer peak and maintenance outage cases, posted in Market Information System (MIS), will be updated to construct the summer peak load and planned maintenance outage study base cases
 - Summer Peak Case: 2024RTP_2030_SUM_12202024
 - Planned Maintenance Case: 2024RTP_2030_MaintenanceOutage_12202024
 - Link: <https://mis.ercot.com/secure/data-products/grid/regional-planning>

Study Assumptions – Transmission

- Based on the February 2025 Transmission Project and Information Tracking (TPIT) posted on ERCOT website, projects with in-service dates on or before June 2029 within the study area will be added to the study base case if not already modeled in the case
 - TPIT Link: <https://www.ercot.com/gridinfo/planning>
 - See appendix A for the list of transmission projects to be added
- Transmission projects identified in the 2024 RTP as placeholder projects related to this RPG project will be removed to develop the study base case
 - See appendix B for the list of transmission projects to be removed

Study Assumptions – Generation

- New generation that met Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before June 2029 in the study area at the time of the study, but not already modeled in the RTP case, will be added to the study base case based on the February 2025 Generator Interconnection Status (GIS) report posted on the ERCOT website in March 2025
 - GIS Link: <https://www.ercot.com/gridinfo/resource>
 - See appendix C for the list of generation projects to be added
- All generation will be dispatched consistent with the 2024 RTP methodology
- All recent retired/indefinitely mothballed units will be reviewed and turned off, if not already reflected in the 2024 RTP Final case

Study Assumptions – Load & Reserve

- Load in study area
 - Loads will be maintained to be consistent with 2024 RTP
 - Newly confirmed loads (377.97 MW in 2030) in the study area were already modelled in the 2024 RTP
- Reserve
 - No load scale down would be needed to maintain the reserve consistent with the 2024 RTP

Contingencies and Criteria

- Contingencies
 - NERC TPL-001-5.1 and ERCOT Planning Criteria
 - Link: <https://www.ercot.com/mktrules/guides/planning/current>
 - P0 (System Intact)
 - P1, P2-1, P7 (N-1 condition)
 - P2-2, P2-3, P4, and P5 (345-kV only)
 - P3 (G-1+N-1: G-1 Dansby Unit1 and Frontier Combined Cycle Train)
 - P6-2 (X-1+N-1: X-1 of Gibbons Creek and Jack Creek 345/138-kV transformers)
- Criteria
 - Monitor all 69-kV and above buses, transmission lines, and transformers in the study area (excluding generator step-up transformers)
 - Thermal
 - Use Rate A for pre-contingency conditions
 - Use Rate B for post-contingency conditions
 - Voltage
 - Voltages exceeding their pre-contingency and post-contingency limits
 - Voltage deviations exceeding 8% on non-radial load busses

Study Procedure

- Need Analysis
 - The reliability analysis will be performed to identify the need to serve the projected area load using the study base case
- Project Evaluation
 - Project alternatives will be tested to satisfy the NERC and ERCOT reliability requirements
 - ERCOT may also perform the following studies:
 - Planned maintenance outage
 - Long-term Load-Serving Capability Assessment
- Generation and Load Scaling Sensitivity Analyses
 - Planning Guide Section 3.1.3(4)
- Subsynchronous Resonance (SSR) Assessment
 - Nodal Protocol Section 3.22.1.3(2)
- Congestion Analysis
 - Congestion analysis may be performed based on the recommended transmission upgrades to ensure that the identified transmission upgrades do not result in new congestion within the study area

Next Steps and Tentative Timeline

- Tentative Timelines
 - Status updates at future RPG meetings
 - Final recommendation – Q3 2025

Thank you!



Stakeholder comments also welcomed through:

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Appendix A – Transmission Projects

- List of transmission projects to be added to study base case

RPG/TPIT No	Project Name	Tier	Project ISD	From County
87395	LCRATSC_Caldwell_Substation_Addition	Tier 4	May-25	Burleson
80404	Reroute East to Rodgers 69kV line to create East to Rayburn 69kV line to accommodate the TXDOT SH6 project	Tier 4	Jun-26	Brazos
80424	Rebuild / Reconductor Dansby to Business Park 69kV for Rail Spur	Tier 4	Jun-26	Brazos
80384	Reconductor Gibbons Creek to Greens Prairie Line	Tier 4	Jun-26	Grimes
78175	BEPC_27TPIT78175_Franklin_Capacitor	Tier 4	Oct-26	Robertson
80342	BEPC_TPIT80342_HILLTOPLAKES_SECONDAUTO	Tier 4	Mar-27	Leon
80340	BEPC_TPIT80340_KEITHSW_IOLA	Tier 4	Mar-27	Grimes
80420	Rebuild / Reconductor Greens Prairie to South Switch 138kV Line	Tier 4	Jun-28	Brazos
80346	BEPC_TPIT80346_SANDYSW_CRUTCHFIELD	Tier 4	Mar-29	Grimes
80373	BEPC_TPIT80373_IOLA_CRUTCHFIELD	Tier 4	Mar-29	Grimes

Appendix B – Transmission Projects

- List of transmission projects to be removed from the study base case

RTP Project ID	Project Name	County
2024-E4	Bryan Area Project	Brazos, Burleson, Robertson

Appendix C – New Generation Projects to Add

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
21INR0359	Hickerson Solar	SOL	03/01/2026	316.3	Bosque
22INR0525	St. Gall II Energy Storage	OTH	07/01/2025	100.2	Pecos
23INR0372	Cross Trails Storage	OTH	05/26/2025	58.3	Scurry
24INR0493	Crowned Heron BESS 2	OTH	07/31/2025	154.2	Fort Bend
24INR0578	Panther Creek 1 Repower	WIN	04/01/2025	11.0	Glasscock
24INR0582	Panther Creek 2 Repower	WIN	04/01/2025	8.0	Glasscock
24INR0631	Radian Storage SLF	OTH	04/22/2025	160.3	Brown
25INR0231	Apache Hill BESS	OTH	11/15/2026	200.9	Hood
25INR0578	Forest Creek Wind Repower	WIN	12/15/2025	125.1	Glasscock
25INR0672	Fagus Solar Park 2 SLF	SOL	02/11/2026	166.6	Childress
26INR0524	Fagus Solar Park 3 SLF	SOL	04/01/2026	186.8	Childress
20INR0162	Diamondback solar	SOL	12/31/2027	203.8	Starr
22INR0239	Rockefeller Storage	OTH	06/01/2027	206.8	Schleicher
22INR0437	TORMES SOLAR	SOL	03/31/2027	382.1	Navarro
22INR0457	Anson BAT	OTH	05/29/2026	150.6	Jones
23INR0181	Starling Storage	OTH	05/15/2027	63.6	Gonzales
23INR0244	Tiger Solar	SOL	06/30/2027	255.0	Jones
24INR0126	High Noon Storage	OTH	12/01/2027	94.0	Hill
24INR0188	Tehuacana Creek Solar SLF	SOL	03/10/2027	505.5	Navarro
24INR0189	Tehuacana Creek BESS SLF	OTH	03/10/2027	419.0	Navarro

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

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
24INR0201	Short Creek Solar	SOL	03/02/2029	625.0	Wichita
24INR0305	MRG Goody Storage	OTH	01/31/2026	52.3	Lamar
24INR0355	Anatole Renewable Energy Storage	OTH	01/11/2026	207.8	Henderson
24INR0364	Pitts Dudik II	SOL	01/29/2026	30.2	Hill
24INR0386	Black & Gold Energy Storage	OTH	06/30/2027	254.6	Menard
24INR0498	Fort Watt Storage	OTH	04/20/2027	205.4	Tarrant
24INR0528	Blanquilla BESS	OTH	05/15/2026	200.8	Nueces
24INR0584	Houston IV BESS	OTH	06/03/2026	168.6	Harris
25INR0018	Yellow Cat Wind	WIN	09/30/2026	301.2	Navarro
25INR0046	Blue Skies BESS	OTH	12/31/2027	306.3	Hill
25INR0103	Elio BESS	OTH	12/02/2026	317.2	Brazoria
25INR0282	Hornet Solar II SLF	SOL	06/01/2026	209.0	Swisher
25INR0283	Hornet Storage II SLF	OTH	06/01/2026	208.0	Swisher
25INR0319	Northington Solar	SOL	07/15/2027	129.8	Wharton
25INR0391	Purple Sage BESS 1	OTH	05/30/2027	156.0	Collin
25INR0392	Purple Sage BESS 2	OTH	05/30/2027	156.0	Collin
25INR0425	Aldrin 345 BESS	OTH	12/01/2027	362.0	Brazoria
25INR0492	Blue Summit Energy Storage	OTH	07/01/2026	100.0	Wilbarger
26INR0034	Bracero Pecan Storage	OTH	06/01/2026	232.0	Reeves
26INR0189	Skipjack Energy Storage	OTH	04/05/2027	150.6	Brazoria

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

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
26INR0226	First Capitol BESS	OTH	05/01/2026	257.5	Brazoria
26INR0269	Moccasin Solar	SOL	06/01/2027	806.8	Stonewall
26INR0296	Sherbino II BESS SLF	OTH	02/08/2026	77.4	Pecos
26INR0333	VERTUS ENERGY STORAGE	OTH	02/01/2026	401.4	Galveston
26INR0447	Honey Mesquite Wind Farm	WIN	12/15/2026	180.5	Glasscock
26INR0452	Cannibal Draw Solar	SOL	04/10/2028	149.5	Glasscock
26INR0453	Cannibal Draw Storage	OTH	04/10/2028	98.6	Glasscock
26INR0543	Three Canes Solar SLF	SOL	12/31/2026	333.0	Navarro