



TNMP – Silverleaf and Cowpen 345/138-kV Stations Project ERCOT Independent Review Status Update

Ying Li

RPG Meeting
Nov 14, 2023

Recap

- TNMP submitted the Silverleaf and Cowpen 345/138-kV Stations Project for Regional Planning Group (RPG) review in May 2023
 - This Tier 1 project is estimated to cost \$299 million and will require Certificate of Convenience and Necessity (CCN) filings
 - Estimated in-service date
 - June 2027
 - Addresses both thermal overloads and voltage violations in the Reeves and Ward Counties in the Far West weather zone
 - TNMP has expressed need for “critical status designation”
- TNMP provided an overview presentation at the July RPG Meeting
 - <https://www.ercot.com/calendar/07182023-RPG-Meeting>
- ERCOT presented the study scope and status updates at
 - July RPG <https://www.ercot.com/calendar/07182023-RPG-Meeting>
 - September RPG <https://www.ercot.com/calendar/09192023-RPG-Meeting>
 - October RPG <https://www.ercot.com/calendar/10182023-RPG-Meeting>

Recap (cont.)

- ERCOT preferred Option
 - Option 1 was selected as the preferred option because it
 - Addresses reliability violation
 - Improves long-term load serving capability for future load growth in the area
 - Improves operational flexibility
- ERCOT will present the results for the remaining analyses and ERCOT recommendation

Additional Analyses

- Congestion Analysis
 - Congestion analysis was performed for the preferred Option 1 using the 2022 RTP 2027 economic case
 - Option 1 did not result in any new congestion within the study area
- Subsynchronous Resonance (SSR) Assessment
 - Subsynchronous Resonance (SSR) Assessment was conducted for the preferred Option 1 per Nodal Protocol Section 3.22.1.3
 - ERCOT found no adverse SSR impacts to the existing and planned generation resources at the time of this study

Sensitivity Analyses

- Generation Addition Sensitivity Analysis

- Per Planning Guide Section 3.1.3(4)(a), ERCOT performed a generation addition sensitivity by adding the generation listed below to the preferred option case. The additional resources were modeled following the 2022RTP methodology. ERCOT determined relevant generators do not impact the preferred option

GINR	Project Name	Fuel Type	Capacity (MW)	County
16INR0104	Big Sampson Wind	Wind	400	Crockett
21INR0021	Green Holly Solar	Solar	413.6	Dawson
21INR0022	Red Holly Solar	Solar	260	Dawson
21INR0029	Green Holly Storage	Battery	50	Dawson
21INR0033	Red Holly Storage	Battery	50	Dawson
21INR0268	Greyhound Solar	Solar	608.7	Ector
23INR0287	BRP Avila BESS	Battery	164.95	Pecos
23INR0300	Greater Bryant G Solar	Solar	41.6	Midland
23INR0340	Larkspur Energy Storage	Battery	307.46	Upton
24INR0273	Al Pastor BESS	Battery	100.8	Dawson
25INR0208	Iron Belt Energy Storage	Battery	401.9	Borden

- Load Scaling Sensitivity Analysis

- Per Planning Guide Section 3.1.3(4)(b), ERCOT performed a load scaling sensitivity and concluded that the load scaling did not have a material impact on project need

ERCOT Recommendation

- ERCOT recommends Option 1
 - Estimated Cost: \$273.1 million
 - Expected In-Service Date: June 2027
 - CCN is required for
 - Looping the existing 138-kV transmission lines to the new Silverleaf and Cowpen stations
 - TNMP has requested ERCOT designate the recommended project “critical” to the reliability of the system per PUCT Substantive Rule 25.101(b)(3)(D). Since there is a reliability need to have the project in place as soon as possible, ERCOT deems this project critical to reliability

ERCOT Recommendation (cont.)

- Add a new 345-kV New Substation 1, nearby existing Cedarvale station, by cutting into the planned North McCamey – Sand Lake 345-kV double-circuit line
- Add a new 345/138-kV Silverleaf station, nearby New Substation 1, with three transformers, connecting to the New Substation 1 via three 345-kV tie lines
- Loop the existing Cedarvale – Pecos 138-kV line #1 and #2, and Cedarvale – Bone Springs 138-kV line into the new Silverleaf station
- Add a new 345-kV New Substation 2, ~ 13 miles away from the existing Sand Lake station, by cutting into the existing Sand Lake – Solstice 345-kV double-circuit line
- Add a new 345/138-kV Cowpen station, nearby New Substation 2, with two transformers, connecting to the nearby New Substation 2 via two 345-kV tie lines
- Loop the existing IH20 – Salt Draw 138-kV line and Birds of Prey Tap – Harpoon Tap 138-kV line into the new Cowpen station



Next Steps and Tentative Timeline

- EIR Report to be posted in the MIS
 - November 2023
- EIR Recommendation to TAC
 - December 4, 2023
- EIR Recommendation to R&M
 - December 18, 2023
- Seek ERCOT Board of Directors endorsement
 - December 19, 2023

Thank you!



Stakeholder comments also welcomed through:

Ying.Li@ercot.com
Robert.Golen@ercot.com