



Filing Receipt

Received - 2021-12-08 04:28:56 PM

Control Number - 52373

ItemNumber - 269

PROJECT NO. 52373

REVIEW OF WHOLESALE ELECTRIC
MARKET DESIGN

§
§

PUBLIC UTILITY COMMISSION
OF TEXAS

**Comments of Southern Cross Transmission LLC
Regarding DC Tie Issues Relevant to Post-Uri Market Reforms**

Southern Cross Transmission LLC (“SCT”) files these comments in response to issues discussed during both the November 19, 2021 market design work session and October 28, 2021 open meeting regarding the Southern Cross Transmission Project (“SCT Project”) and more general DC tie policies.

I. Introduction and overview

The SCT Project will be a bi-directional high voltage direct current (“HVDC”) transmission line that will asynchronously connect the ERCOT transmission system with transmission systems in the southeastern region of the Eastern Interconnection. The SCT Project was approved by the Federal Energy Regulatory Commission (“FERC”) in 2014,¹ the Garland Power & Light (“GP&L”) Certificate of Convenience and Necessity (“CCN”) for a double-circuit 345-kV transmission line to interconnect SCT’s facilities was approved by the Commission in 2017,² and SCT currently awaits resolution of the Commission’s directives to ERCOT stemming from the GP&L CCN docket.³

With the ability to export 2,100 MW from ERCOT and import 2,000 MW to ERCOT, the SCT Project will effectively triple ERCOT’s connectivity to other bulk electric power systems. At that point, DC tie flows will no longer be background noise on the ERCOT system. Rather, such flows may materially impact system operations and energy market price formation under an array of system conditions. Regarding the SCT Project, in particular, the Commission has thus far through its directives to ERCOT been focused on mitigating possible risks associated with a large DC tie. Now it is time for the Commission to ensure that DC ties flows are properly aligned with the goals of the ERCOT energy market design and that DC tie operations enhance system security.

SCT suggests that not only should DC tie imports and exports be considered in whichever market design reform effort the Commission considers in Phase II of this proceeding, but the Commission should also include in Phase I two near-term actions to improve the integration of DC tie flows within the ERCOT market design and the utilization of DC ties for reliability purposes, particularly during emergency

¹ See FERC Docket No. TX11-1-001, Final Order Directing Interconnection and Transmission Service, 147 FERC ¶ 61,113 (May 15, 2014).

² *Application of the City of Garland to Amend a Certificate of Convenience and Necessity for the Rusk to Panola Double-Circuit 345-kV Transmission Line in Rusk and Panola Counties*, Docket No. 45624, Order on Rehearing (May 23, 2017).

³ Project No. 46304, Revised Order Scoping Project (May 23, 2017).

conditions on the ERCOT system. SCT's policy proposals, discussed below, are separate and independent from other Phase I and Phase II market design reform policies the Commission may elect to pursue and will complement the Commission's broader market design reform effort.⁴

II. Background and relevance to the Commission's market design reform effort

At numerous points during the November 19, 2021 market design work session, Dr. Samuel Newell of the Brattle Group counseled the Commission to consider DC tie imports as a component of the system resource mix in whichever market re-design proposal the Commission elects to pursue. Agreeing with Dr. Newell, SCT is not arguing here for any particular treatment of imports under the various proposals before the Commission. Rather, SCT simply notes here that when the Commission selects a particular policy approach, imports to the ERCOT system are one of the many specific market elements to be considered when developing the policy details.

In some key respects, the DC ties at the edge of the ERCOT system perform quite similarly to large, dispatchable batteries. They absorb energy from the ERCOT system when prices are low and they return energy to the ERCOT system when prices are high. Unlike batteries, however, DC ties are virtually unlimited in the duration for which they can absorb energy from or inject energy to the grid. ERCOT's unilateral authority to curtail DC tie exports to preserve system reliability effectively creates a 3 GW "safety buffer" of curtailable demand. And ERCOT's authority to request emergency imports on behalf of the market in the unlikely event that market prices do not incentivize imports effectively creates a 3 GW option to call on off-system resources from three different bulk power systems to supplement native generation during scarcity periods. This 6 GW swing capability, if properly integrated into the ERCOT system and market, should act as a natural counterweight to ERCOT system net load since the economic incentive to export or import is inversely correlated to ERCOT net load ramps. If renewable generation is falling and native demand is climbing, market signals should lead exporters to curtail and, eventually, reverse flow. If renewable generation is rising and native demand is falling, exports not only become economically rational for market participants but also become helpful to system operators.

To ensure emergency import capability is actually usable by ERCOT when needed and to ensure that DC tie flows are properly integrated with the ERCOT energy market design, SCT proposes two policies the Commission should adopt in the near term to improve system reliability independent of any particular

⁴ Project No. 52373, Staff Memo, Dec. 6, 2021. SCT takes no position at this time regarding the Load-Side Reliability Mechanism(s), the Backstop Reliability Service, or Hybrid Model described in Staff's Memo. Rather, SCT here proposes policies which complement any of the Phase II options before the Commission.

energy market reform effort and irrespective of any particular energy market reform policy: include DC ties in the ERCOT system planning function, and modernize the “export tariff”.

Commissioner Glotfelty raised both of these issues during the October 28, 2021 Open Meeting discussion of the SCT Project.⁵ While both the system planning and export tariff issues are important to the SCT Project’s development, it is also important to note these issues present problems today in the existing market – causing under-utilization of the existing DC ties and precluding the economic and reliability benefits that would materialize from the proper function of imports and exports within the broader energy market framework. SCT believes both of these items should be placed in the category of Phase I market design enhancements that the Commission should implement in 2022 within the multi-track framework reflected in the Staff Memo filed on December 6. While the first issue can be included in a rulemaking already on the Commission’s agenda for 2022, the second issue would require its own rulemaking.

**III. Policy Recommendation No. 1:
DC ties should be included in the ERCOT system planning function**

In October 2020, the ERCOT Board approved Planning Guide Revision Request (PGRR) 077 DC Tie Planning Assumptions which clarified ERCOT’s long-standing practice of curtailing DC tie flows in planning studies to meet reliability criteria. The practical result of this policy is that ERCOT will not recommend transmission upgrades to serve DC tie imports or exports. There are three major problems with the policy clarified by PGRR 077.

The first problem concerns the reliability of the ERCOT system during emergency conditions. As Sharyland Utilities’ made clear in comments on PGRR 077, if transmission planning analyses do not provide for the ability of the transmission system to receive imports across a DC tie, up to the name plate capacity, without causing other reliability issues on the system, then ERCOT will not maximize the reliability benefits of the tie. Sharyland recommended ERCOT plan for the full import capacity of DC ties.⁶

The second problem concerns the discriminatory treatment of DC tie loads in the transmission planning process, as articulated by Rainbow Energy Marketing Corp. “... PGRR 077 language states that DC Tie transactions will be fully curtailed in ERCOT’s reliability planning process and therefore no reliability upgrade will be considered to accommodate any DC Tie flow even though DC Tie Load pays more than its fair share of Transmission Costs of Service (TCOS) through the export tariff.”⁷

⁵ Agenda Item No. 19, Project No. 46304.

⁶ Sharyland Utilities Comments, *PGRR 077 DC Tie Planning Assumptions*, Jan. 30, 2020, p.1.

⁷ Rainbow Energy Marketing Corp. Comments, *PGRR 077 DC Tie Planning Assumptions*, Oct. 1, 2020, p. 1.

SCT also clearly stated the problem in its Sep. 18, 2020 comments. “When DC Tie exports pay all the same system costs as other Loads but receive no consideration in the ERCOT planning process to plan reliable transmission infrastructure to serve their Load, then second-class service is provided to a transmission customer paying first-class rates. This is a discriminatory outcome.”⁸

The third problem is that the PGRR 077 policy was conceived, debated, and adopted at ERCOT even though there are clearly broad public policy issues involved which are appropriately within the purview of the Commission. Stakeholders acknowledged this during the Technical Advisory Committee discussion preceding approval of the revision request. The Sep. 23, 2020 TAC Report states, “Concerns were expressed ... whether this issue should be addressed in the ERCOT stakeholder process or by the PUCT.”⁹

The Commission has already scheduled a rulemaking beginning in January 2022 to address transmission planning criteria as directed by the 87th Legislature in Senate Bill 1281.¹⁰ SCT urges the Commission to include the consideration of ERCOT planning policy regarding DC ties in that rulemaking in order to ensure that ERCOT’s planning practices are aligned with the Commission’s market design and system reliability goals.

IV. Policy Recommendation No. 2:

The export tariff should be modernized to complement the ERCOT energy market design

There are two categories of charges assessed to Qualified Scheduling Entities (“QSEs”) exporting power from ERCOT. The first is the ERCOT settlement charge types applicable to DC tie loads. These are the same charges other wholesale loads pay in the ERCOT market – the System Administrative Fee, ancillary services charges, Unaccounted For Energy, *etc.* The ERCOT settlement charge types are determined by the ERCOT Nodal Protocols and Other Binding Documents and are not a problem.

The second category is the transmission rates applicable to DC tie exports. These transmission charges (the “export tariff”) are assessed to exporting QSEs by the TSPs in the ERCOT footprint for use of the ERCOT transmission network. The export tariff is determined by 16 TAC § 25.192(e). The current PUC export tariff rule was adopted before the existence of the modern ERCOT market – and it shows.

There are six distinct problems with the antiquated export tariff:

1. The export tariff relies on a tariff multiplier rather than market price signals. The export tariff is broad and binary. Exporting QSEs are supposed to be charged the postage stamp transmission rate in all hours of the months of October-May (the off-peak rate) and roughly three times the postage stamp

⁸ Southern Cross Transmission Comments, *PGRR 077 DC Tie Planning Assumptions*, September 18, 2020, p. 2.

⁹ TAC Report, *PGRR 077 DC Tie Planning Assumptions*, September 23, 2020, p.2.

¹⁰ P.U.C. Project No. 51715, Memorandum of Thomas Gleeson, July 14, 2021, p. 1 of attached schedule.

rate in all hours of the months of June-September (the on-peak rate). When the export tariff was designed, the wholesale ERCOT market as we know it today did not exist. There were no market signals to drive market participant behavior and ERCOT's authority to control DC tie flows to ensure system security was not established. In short, the export tariff was not designed to reflect the cost of using the ERCOT transmission system. Rather, it was designed as a substitute for the discipline of market pricing and the authority of grid operator since neither of those existed at the time the rule was crafted.

2. The export tariff does not support reliable system operations. ERCOT experiences an increasingly large number of hours each year in which non-dispatchable renewable generation forces more expensive but fully dispatchable resources offline. This often occurs during overnight low-load hours when wind generation is high, including during the summer when the export charge is tripled under the Commission's rule. An export tariff which makes it prohibitively expensive to sell excess energy to other markets and thereby increase the room in ERCOT's offer stack for dispatchable resources is a tariff that works against the needs of the ERCOT system in Real-Time operations.

3. The export tariff rule language is outdated and confusing. Five years ago, ERCOT recommended the PUCT update the rule language. "To avoid any possible inference that non-QSE entities should be permitted to schedule over the ties, ERCOT suggests narrowing the definition of "export entity" to include only QSEs ..."¹¹ LCRA pointed out the effect of the rule's lack of clarity. "Further, discussions at the workshop additionally revealed that many exporting entities do not understand or appreciate their financial obligation for transmission service within ERCOT associated with exports of energy."¹² Such recommended updates have not occurred.

4. The export tariff is poorly administered. Brazos Electric Power Cooperative summed up the problems in 2016. "Under the current rule language, TSPs which do not have export facilities, such as Brazos Electric, face several impediments to billing exporters for use of the ERCOT transmission system." Brazos cited a lack of information necessary to bill exporting QSEs and a lack of clarity regarding proper billing units, among others.¹³ SCT recently highlighted the practical effect. "Although the tariff is administered in a rather opaque manner, it is common knowledge that not one single megawatt-hour exported from the ERCOT region has been assessed the full transmission rate required by the Commission's rule since the launch of the modern ERCOT market in 2001."¹⁴

¹¹ Project No. 46393, ERCOT Reply Comments, Dec. 21, 2016, p. 8.

¹² Project No. 46393, LCRA Comments, Dec. 7, 2016, pp. 2-3.

¹³ Project No. 46393, Brazos Electric Power Cooperative, Inc.'s, Comments on Staff Strawman, Nov. 5, 2016, p. 1.

¹⁴ P.U.C. Project No. 52373, Southern Cross Transmission LLC's Comments Regarding DC Ties, Aug. 24, 2021, p. 6.

5. The transmission rates paid by exporters are decoupled from system planning policy. As noted above, not only do exporters of power from ERCOT pay transmission rates for use of the ERCOT network, they pay higher transmission rates than any other load in ERCOT. Yet the ERCOT system planning process is specifically designed to preclude the possibility of recommending new transmission infrastructure to provide that service. The two policies combine to create a discriminatory outcome inconsistent with principles of the ERCOT wholesale market design.

6. The export tariff does not maximize economic benefits to Texas. SCT made this point in 2016. “Export transactions which would be economically reasonable but for the administrative constraint of the export tariff are rendered uneconomic and do not occur ... When these export transactions are squelched, ERCOT generators forego revenues they could have otherwise earned from someone other than ERCOT consumers. Texas landowners hosting wind farms on their property lose royalty payments. The State of Texas foregoes business tax revenue. Perhaps most importantly for the direct purpose of this rule, ERCOT ratepayers lose the value of transmission charge revenue from exporters which would offset transmission system costs they must pay to the ERCOT TSP’s. The outdated tariff design produces losers all around.”¹⁵

V. Summary and conclusion

SCT urges the Commission to consider inclusion of DC ties in the ERCOT system planning function when it conducts the transmission planning criteria rulemaking in January 2022 to implement SB 1281. SCT strongly encourages the Commission to open a limited rulemaking in 2022 for the narrow purpose of amending Subst. R. 25.192(e) to modernize the export tariff. Finally, as a general recommendation regarding Phase II market design reform proposals, SCT advises the Commission to consider how DC tie flows should function within the new policy framework. SCT appreciates the opportunity to comment in this proceeding and stands ready to provide further information as necessary.

Respectfully submitted,

/s/ Kerry McGrath

Kerry McGrath
Duggins Wren Mann & Romero, LLP
600 Congress Avenue, Suite 1900
Austin, Texas 78701
(512) 744-9300 (Telephone)
kmcgrath@dwmrlaw.com

**ATTORNEYS FOR SOUTHERN CROSS TRANSMISSION
LLC**

¹⁵ Project No. 46393, Southern Cross Transmission LLC’s Comments on Staff Strawman, Dec. 7, 2017, p. 17.

PROJECT NO. 52373

**REVIEW OF WHOLESALE ELECTRIC
MARKET DESIGN**

§
§

**PUBLIC UTILITY COMMISSION
OF TEXAS**

**Comments of Southern Cross Transmission LLC
Regarding DC Tie Issues Relevant to Post-Uri Market Reforms**

EXECUTIVE SUMMARY

To ensure emergency import capability is actually usable by ERCOT when needed and to ensure that DC tie flows are properly integrated with the ERCOT energy market design, Southern Cross Transmission LLC (“SCT”) proposes two policies the Commission should adopt in the near term to improve system reliability independent of any particular energy market reform effort and irrespective of any particular energy market reform policy:

- Include DC ties in the ERCOT system planning function; and
- Modernize the “export tariff.”

With the ability to export 2,100 MW from ERCOT and import 2,000 MW to ERCOT, the SCT Project will effectively triple ERCOT’s connectivity to other bulk electric power systems. At that point in time, DC Tie flows may materially impact system operations and energy market price formation under an array of system conditions. The Commission should consider DC tie imports as a component of the system resource mix in whichever market re-design proposal the Commission elects to pursue.

In some key respects, the DC ties at the edge of the ERCOT system perform quite similarly to large, dispatchable batteries, but they have virtually unlimited duration for which they can absorb or inject energy to the system. ERCOT’s unilateral authority to curtail DC tie exports to preserve system reliability effectively create a 3 GW “safety buffer” of curtailable demand. And ERCOT’s authority to request emergency imports on behalf of the market in the unlikely event that market prices do not incentivize imports effectively creates a 3 GW option to call on off-system resources from three different bulk power systems to supplement native generation during scarcity periods. This 6 GW swing capability, if properly integrated into the ERCOT system and market, should act as a natural counterweight to ERCOT system net load since the economic incentive to export or import is inversely correlated to ERCOT net load ramps.

The Commission should (1) address the inclusion of DC ties in the ERCOT system planning function in a rulemaking to implement SB 1281 already planned for 2022 and (2) open a limited rulemaking for the narrow purpose of amending 16 TAC § 25.192(e) to modernize the export tariff.