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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	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

TEXAS COMPETITIVE POWER ADVOCATES INITIAL POST-HEARING BRIEF

To the Honorable Administrative Law Judge:

The Texas Competitive Power Advocates[1] (TCPA) hereby respectfully submits its Post-Hearing Reply Brief.

For the convenience of the ALJ in reviewing all of the parties' briefs, TCPA will use the numbering convention set forth in the briefing outline suggested by the City of Garland's counsel[2] by topic and subject matter – but omitting those sections that TCPA does not address below.

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[1] The comments contained in this filing represent the position of TCPA as an organization, but not necessarily the views of any particular member with respect to any issue.

[2] City of Garland, *Briefing Outline* (June 10, 2016) PUCT Docket 45624.

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I. INTRODUCTION

TCPA represents a number of market participants who fully support competition in the ERCOT competitive marketplace, including Power Generation Companies, Retail Electric Providers and Power Marketers. TCPA has concerns about the impact of large Direct Current (DC) ties on ERCOT system reliability operations and ERCOT's competitive market structure. The driving factor for the proposed transmission facilities is the ties comparatively large size, which introduces novel reliability, policy and market issues, including the significant new exposure of the ERCOT market to the system deliverability and economics of neighboring electric markets.

On February 25, 2016, the City of Garland, doing business as Garland Power & Light (Garland), filed an application to amend its certificate of convenience and necessity (CCN) for the addition of the Rusk to Panola double-circuit 345-kV transmission line in Rusk and Panola Counties (Application). Garland filed the Application pursuant to amendments to the Public Utility Regulatory Act (PURA) as enacted during the last session of the Texas Legislature.[3] The proposed facilities would interconnect the Southern Cross Transmission LLC DC tie transmission project (Southern Cross) to the ERCOT grid and have up to 2,100 MW capacity for exports and imports to and from the ERCOT Region – and according to Federal Energy Regulatory Commission (FERC) approvals obtained by Southern Cross, the associated proposed DC Tie facilities may ultimately reach 3,000 MW of inter-regional transfer capability.[4]

[3] Senate Bill 933, 84th Regular Session 2015 enacting PURA sections 37.051(c-1) through (c-3).

[4] U.S. Federal Energy Regulatory Commission, Docket No. EL11-61-000, Southern Cross Transmission LLC, *Order Authorizing Proposal* (December 15, 2011); and U.S. Federal Energy Regulatory Commission, Docket

TCPA encourages the Commission to apply appropriate scrutiny to the unique challenges of adding such a large DC tie facility in the ERCOT system. The Commission should condition approval of the Application and operation of the proposed DC tie facilities on the adoption and implementation of market rules to protect the integrity of the ERCOT reliability operations and market pricing mechanisms.

V. DISCUSSION

The Commission must eliminate DC tie scheduling preference over economic dispatch of ERCOT resources. The economic rationale for operating large DC ties is to take advantage of low system prices, such as during the high wind output/low ERCOT load hours and high system prices when generation capacity inside of ERCOT is scarce and power can be imported from another location into ERCOT. Under current ERCOT market rules, transactions for energy flows over DC ties are inflexible and are subject to few limitations.[5] That is, all DC tie schedules flow, and absent emergency conditions or reliability issues (when ERCOT can curtail DC tie schedules), DC tie facilities represent a large price-taking block of uncontrollable power production. In effect, DC ties are exempt from ERCOT's Security Constrained Economic Dispatch (SCED), which is the mechanism that ERCOT uses to ensure the most efficient dispatch of power supply in ERCOT.[6] When there is transmission congestion, DC tie power flows effectively "trump" native ERCOT generation resources by consuming the available transmission capacity and ERCOT resources are curtailed; thus the DC tie flows gain an uncompetitive, unfair advantage over resources within ERCOT. With a DC tie of the size proposed by Southern Cross, these dynamics create significant challenges and represent potential threats to reliable ERCOT system operations and market functions.

The scheduling preference for DC ties artificially constrains resources fully committed to ERCOT and impacts ERCOT's ability to effectively manage the ERCOT system. As a balancing authority, ERCOT must have access to a sufficient amount of controllable, flexible

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No. TX11-1-001, Southern Cross Transmission LLC, *Final Order Directing Interconnection and Transmission Service* (May 15, 2014).

[5] *See* ERCOT Protocols Section 4.4.4, *DC Tie Schedules*; and ERCOT Operating Procedure Manual, *DC Tie Operations* at http://www.ercot.com/mktrules/guides/procedures.

[6] *See* ERCOT Protocols Section 6.5.7, *Energy Dispatch Methodolog.y*

resources to maintain stability and system frequency at all times. The ERCOT system already has a large mismatch of controllable resources in SCED versus those resources not in SCED, which creates grid management difficulties when the system is in a dynamic state during real-time market conditions. The addition of the DC tie itself actually makes the challenge of maintaining system stability even more severe. The net effect on the ERCOT system is the remainder of the resources that are flexible and can respond to rapid fluctuations in power supply and demand (and are not constrained by congestion caused by the DC tie) will be leaned upon more heavily for system stability to accommodate the large amount of uncontrollable resources (intermittent renewables and the proposed large DC tie).

The Commission must address DC tie interference with fundamental ERCOT market design principles. ERCOT's energy-only market relies upon critical market design features, such as effective scarcity pricing, to produce market prices required for investment recovery and development of ERCOT resources. The proposed DC tie introduces imports and exports of power seeking to arbitrage opportunities between markets. The ERCOT market would be greatly exposed to very different market structures including, for example, much lower offer caps and the presence of capacity markets.[7] For coincident, extreme demand periods across neighboring grids, ERCOT would likely be the premium market, drawing high volumes of imports and suppressing prices during the typically short periods of scarcity upon which the ERCOT market depends for proper investment signals. The long-term unintended consequence will be negative effects on proper price formation in ERCOT, perpetually limiting new resource development opportunities *within* ERCOT.

The Commission must ensure that resources committed to ERCOT reliability operations and resource adequacy have preference over DC tie market price arbitrage. It is important to consider that there is a significant difference between resources interconnected to the ERCOT system and the operation of a DC tie. ERCOT resources are committed to the ERCOT market and its reliability operations, and must be available to ERCOT with their

[7] The Midcontinent Independent System Operator (ISO) and Southwest Power Pool have an offer cap of $1,000 p/MWh.

reliability support capabilities, outside normal maintenance and forced outage conditions.[8] Under PUCT rules and ERCOT Protocols, power generators in ERCOT are committed to ensuring reliability at ERCOT's direction.[9] In contrast, DC tie operations are excluded from this important responsibility and are purely an economic, pricing arbitrage mechanism, outside of the emergency conditions discussed above. ERCOT cannot rely on DC tie operators for reliability support under current Commission and market rules. Contrary to the position of TIEC witness Griffey,[10] TCPA asserts that it is highly appropriate and good policy to prioritize resolution of congestion impacts to ERCOT resources that are committed to ERCOT reliability, on a day-to-day basis, over DC tie operators, who have no commensurate commitment to maintaining ERCOT system reliability. Likewise, contrary to the position of Southern Cross Witness Hudson[11], there is a great difference between the power supplies from resources that ERCOT can firmly rely upon for resource adequacy, and these resources deserve priority treatment over DC tie operations that have no commitment to supporting permanent, consistent capacity that supports ERCOT resource adequacy.

B. Reasonable Conditions to Protect the Public Interest (Preliminary Order Issue No. 2)

In keeping with the discussion above, TCPA urges the Commission to condition approval of the Application's proposed facilities, and prior to placing them into service, require the following conditions:

1. Execution by Southern Cross, and any other entity engaged in the operation or market functioning of the proposed DC tie, of an ERCOT Market Participant Agreement. The Commission should direct ERCOT to develop the appropriate designation, terms and conditions that should apply to Southern Cross and any other entities engaged in the operation or market functioning of the proposed DC tie.

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[8] *See* PUCT Subst R. 25.502(e) and ERCOT Protocols Section 3.14.1 et seq. - Regarding generators' obligation to submit to ERCOT for Reliability Must Run (RMR) service or remain otherwise available to ERCOT to ensure reliable operations.

[9] *See* ERCOT Protocols Section 5.5.2 Reliability Unit Commitment (RUC) Process – describing ERCOT's authority to call into service generation unit needed to maintain system adequacy and stability – a responsibility not applicable to DC ties.

[10] Texas Industrial Energy Customers Exhibit 2, Griffey Cross Rebuttal Testimony at 4: 20 through 5: 5.

[11] Southern Cross Exhibit 11, Paul Hudson Cross Rebuttal Testimony at 15: 17 through 17: 4.

2. Adoption and implementation of ERCOT market rules to ensure that resources interconnected to the ERCOT system are given appropriate priority treatment and are not unduly curtailed due to the operation of the DC tie proposed by Southern Cross. Such measures can include Congestion Management Plans (CMPs), as described more fully by other parties[12], as well as Special Protection Systems (SPSs) and Remedial Action Schemes (RASs) to enhance exportability and deliverability (discussed below). These issues should be assigned to the ERCOT stakeholder process for final resolution prior to allowing the operation of the Application's proposed facilities and do not need to be resolved in this proceeding.
3. Adoption and implementation of ERCOT market rules to ensure that competitive pricing dynamics are not biased in favor of out-of-state transactions and their beneficiaries and appropriate pricing mitigation is imposed to ensure proper market functionality. These issues should be assigned to the ERCOT stakeholder process for final resolution and do not need to be resolved in this proceeding.
4. The final order in this proceeding should acknowledge that the proposed DC tie may be subject to the assignment of the costs of transmission system upgrades and ancillary service requirements related to DC tie operations that the Commission may put in place prior to the operation of the DC tie, and that approval of this CCN, should it be approved, shall not give the DC tie any exemption or special treatment regarding such new requirements.

E. Application of PURA § 37.051(c-2) to Southern Cross (Preliminary Order Issue No. 3)

1. Market Participant Agreement (Preliminary Order Issue No. 3a)

TCPA agrees with the position of Commission Staff and other parties that Southern Cross be required to enter into a Market Participant Agreement as a condition precedent to placing the proposed facilities into service, as discussed above.

[12] Luminant Exhibit 1, Shams Siddiqi Direct Testimony at 12: 9 through 13: 25.

F. ERCOT Issues (Preliminary Order Issue No. 4)

3. Transmission Upgrades to Facilitate Exports Over DC Ties (Preliminary Order Issue No. 4c)

Introducing a large load addition via a DC tie export will increase transmission costs to ERCOT load customers. In addition to the interconnection facilities for DC ties, additional transmission upgrades sufficient to support deliverability of imports and exports from the tie will be necessary, and their costs must be considered. The long-standing practice of load paying for transmission infrastructure through the "postage stamp" methodology to accommodate system upgrades associated with a resource would be equally applied to DC ties, absent a change in the Commission's rules. As such, transmission projects to ensure resource deliverability over the DC tie would currently be borne by the ERCOT ratepayers. This is true even though the benefits of the DC tie will accrue, at least in part, to non-Texas customers.

Transmission rate structures should be adjusted to ensure equitable cost sharing of those upgrades associated with a new DC tie. The mechanism could assign system costs to the owners and beneficiaries (potentially including ERCOT ratepayers to reflect the system benefit) of the DC tie. TCPA has no specific recommendation for a cost-allocation mechanism at this time. However, TCPA suggests that this mechanism should consider who benefits from exports and imports over a DC tie and seek to equitably assign costs. This mechanism should be subject to a Commission rulemaking process, and Southern Cross and other parties who seek to use the proposed DC tie should be on notice that these costs will become a part of the cost of the DC tie operation.

4. Economic Dispatch and Congestion Management (Preliminary Order Issue No. 4d)

DC ties should be subject to economic dispatch to ensure resources committed to ERCOT reliability are treated fairly in regards to supplying the ERCOT market and to deter undue transmission congestion conditions. TCPA acknowledges the complexity of integrating DC tie operations with other North American Electric Reliability Corporation (NERC) balancing authorities, as discussed in more detail by other parties,[13] but ERCOT's SCED process should be

[13] ERCOT Exhibit 2, Dan Woodfin Direct Testimony at 15: 8 through 16: 3.

given as much control over DC tie transactions as possible. This proceeding is not the appropriate forum to develop these market mechanisms, so the Commission should direct ERCOT to develop those mechanisms in the ERCOT stakeholder process and require that those mechanisms be put in place prior to allowing the Application's proposed facilities to be placed in service.

In regards to transmission congestion, TCPA supports the development and implementation of a CMP, as described more fully by other parties.[14] In addition, SPSs and RASs could be used to minimize some of the transmission expansion that would otherwise be required to support exportability and deliverability to and from the proposed Southern Cross DC tie Project. An SPS or RAS, by design, would enable higher pre-contingency flows from a facility or group of facilities by programmatically reducing, and as a backup, tripping output from the DC tie without operator direction, if a defined system contingency occurs. Currently, these SPSs are voluntary for potentially affected resources. Further, SPSs/RASs typically curtail a defined amount of capacity, irrespective of costs, to make sure certain post-contingency operations are within system element loading limits. Given the magnitude and complexity of these systems, TCPA suggests that the Commission direct ERCOT, through the stakeholder process, to develop operational mechanisms to address these issues prior to allowing the Application's proposed facilities to be placed in service.

9. Costs of Ancillary Services (Preliminary Order Issue No. 4i)

DC ties of the size being proposed by the Southern Cross DC tie Project represent a significant, new consideration when determining ancillary service requirements based on the size of the largest single credible contingency. A 2,100 MW DC tie would significantly eclipse the largest single credible contingency that the ERCOT region must be able to respond to under NERC's BAL-002 reliability standard, which is currently set at 1,375 MW. Indeed, when the DC tie moves from maximum import to maximum export mode, the swing is a dramatic 4,000 MW. At a minimum, the instantaneous loss of a DC tie should be reflected in the requirement for ERCOT's Contingency Reserves (RRS) which will be followed by higher ancillary service costs to ERCOT load customers. Due to the large impact on ERCOT's ancillary service needs,

[14] Luminant Exhibit 1, Shams Siddiqi Direct Testimony at 12: 9 through 13: 25.

TCPA believes shared cost allocation with the owners and/or beneficiaries of large new DC ties is appropriate. This proceeding is not the appropriate forum to develop these market mechanisms, so the Commission should direct ERCOT to develop them in the ERCOT stakeholder process and require that they be put in place prior to the Application's proposed facilities being placed into service.

IV. CONCLUSION

TCPA encourages the Commission to take into consideration the significant challenges presented by the addition of the DC tie that the Application's proposed facilities support and impose reasonable conditions on its operation. These measures are needed to ensure continued reliable ERCOT system operations and the health of the ERCOT market design.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a copy of this document was served on all parties of record on June 10, 2016 by hand delivery, first-class U.S. mail, facsimile, or e-mail.

Lindsey Hughes, Executive Director, TCPA