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Addendum StartPage: 0

PROJECT NO. 48539

REVIEW OF THE INCLUSION §
OF MARGINAL LOSSES IN §
SECURITY-CONSTRAINED §
ECONOMIC DISPATCH §

PUBLIC UTILITY COMMISSION
OF TEXAS

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**ERCOT’S RESPONSE TO COMMISSION’S
REQUEST FOR COMMENTS**

Electric Reliability Council of Texas, Inc. (ERCOT) submits this response to the Public Utility Commission’s (Commission) Request for Comments as approved at the August 9, 2018 Open Meeting, and published in the Texas Register on August 24, 2018 in Project No. 48539, *Review of the Inclusion of Marginal Losses in Security-Constrained Economic Dispatch*.

In several instances, ERCOT’s responses to the Commission’s questions refer to ERCOT’s recently submitted study assessing the benefits of including marginal losses in Security-Constrained Economic Dispatch (SCED) (hereinafter, the “ERCOT Marginal Losses Benefits Study”).¹ ERCOT has also provided responses to a number of the Commission’s questions that raise issues that were not specifically addressed in this study.

I. Response to Commission’s Request for Comments

- 1. What are the benefits of implementing the use of marginal transmission losses rather than average transmission losses in the Electric Reliability Council of Texas’ (ERCOT’s) Security-Constrained Economic Dispatch (SCED) over the long term?**

ERCOT Response:

ERCOT has no comment on this question at this time.

¹ *Project to Assess Price-Formation Rules in ERCOT’s Energy-Only Market*, Project No. 47199, Study of the System Benefits of including Marginal Losses in Security-Constrained Economic Dispatch (June 29, 2018).

19

- 2. Are the benefits identified in response to Question 1 sufficient to justify the near term costs to the market as a whole? Please consider individual stakeholder implementation costs as well as the costs to ERCOT identified in its study.**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 3. What are the effects on retail customers and the retail market from the implementation of marginal transmission losses?**

ERCOT Response:

Please refer to section 2.2 of the ERCOT Marginal Losses Benefits Study filed in Project 47199 for a summary of projected impacts to consumer costs. Apart from this study, ERCOT has no comment on this question at this time.

- 4. The ERCOT study of using marginal transmission losses instead of average transmission losses in SCED simulated one year. How would cumulative, multi-year impacts of using marginal transmission losses be different, if at all?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 5. What costs would be incurred by market participants if marginal losses were implemented in the ERCOT market? Please provide an estimate of the costs that would be incurred by your company or companies or customers represented by your organization. Please describe the elements of those costs.**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 6. How would a decision to use marginal transmission losses affect your company's market systems?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 7. How would a decision to use marginal transmission losses affect your company's internal operations?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 8. What are the effects on reliability on the ERCOT grid of using marginal transmission losses instead of average transmission losses in SCED?**

ERCOT Response:

Aside from the issues raised in ERCOT's response to question number 10, ERCOT does not foresee an impact to reliability from implementation of marginal losses in SCED.

- 9. What effects, if any, would marginal transmission losses have on grid hardening and resilience?**

ERCOT Response:

ERCOT does not have a response to this question at this time.

- 10. What effects would the use of marginal transmission losses in SCED have on grid reliability in regions of the ERCOT grid where non-synchronous generation is more prevalent?**

ERCOT Response:

In recent years, ERCOT has increasingly had to utilize generic transmission constraints (GTCs) to enable ERCOT's SCED to observe transmission limitations due to limited short-circuit current. These GTCs increase the complexity of grid operations. Limited short-circuit current manifests in areas where there is limited synchronous generation (such as traditional thermal units) and large amounts of asynchronous generation (such as wind and solar units). Given the anticipated economic impact of marginal losses on thermal units in the western and northern portions of the ERCOT grid, as noted in the ERCOT Marginal Losses Benefits Study, including marginal losses in SCED could result in thermal units located closer to the wind and solar units in these regions being committed less often and possibly being removed from service. These changes could exacerbate the impacts of limited short-circuit current on grid operations.

ERCOT has implemented transmission solutions (specifically synchronous condensers) in the Panhandle region to alleviate short-circuit current impacts on the Panhandle GTC export limit. While these measures have proven effective, they do result in an increase in overall transmission cost-of-service fees.

- 11. How would a decision to implement marginal transmission losses affect investment in new generation resources in ERCOT over the next five years, the next 10 years, and in the years beyond 10 years?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 12. How would the implementation of marginal transmission losses affect the composition of the generation fleet in ERCOT?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 13. Assuming the Commission decided to go forward with implementation of marginal transmission losses, what are the key issues related to determining the appropriate treatment and allocation of the marginal transmission loss surplus revenues?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 14. Does the ERCOT analysis of the benefits of including marginal transmission losses in SCED accurately measure such benefits? Are potential costs to the market or to market participants adequately accounted for?**

ERCOT Response:

ERCOT has no comment on this question at this time.

15. What ERCOT operational changes would need to be made that are not considered in ERCOT's studies?

ERCOT Response:

If the Commission decides to implement marginal losses in SCED, ERCOT would need to incorporate these changes into operational and market analytical tools that mimic SCED. Any such changes should not require significant effort or expense. Operational tools that currently utilize full AC power flow analyses (such as Real-Time Contingency Analysis or RTCA) would already inherently include an accurate assessment of the impact of losses.

16. Would the use of marginal transmission losses in SCED change the ERCOT transmission planning process and transmission build-out?

ERCOT Response:

ERCOT does not expect the use of marginal transmission losses in SCED to change the need for transmission projects that are planned for reliability-driven purposes (as defined in ERCOT Planning Guide Section 3.1.3.1). For economic-driven projects, the transmission planning production-cost modeling process would change to reflect the marginal loss methodology instead of the current average loss methodology. This could impact the need for an economic-driven project or possibly which project alternative is selected. Hence, the transmission build-out could change such that some projects that would not be economically justified under the average loss methodology would be economically justified under the marginal loss methodology and vice-versa. However, ERCOT notes that the vast majority of transmission projects in ERCOT are reliability-driven.

17. Assuming that the implementation of marginal transmission losses results in the location of generation closer to load, what advantages and disadvantages would there be during an emergency event or a market restart to having generation located closer to load?

ERCOT Response:

ERCOT does not envision an impact to the effectiveness of Energy Emergency Alert procedures or black start plans from the implementation of marginal losses.

- 18. What effects, if any, would the implementation of marginal transmission losses have on the Congestion Revenue Rights (CRR) market?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 19. How should the Commission direct ERCOT to implement marginal transmission losses in a way that mitigates any deleterious effects on the CRR market?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 20. Does your assessment of the incorporation of marginal transmission losses change based on the timeline of implementation?**

ERCOT Response:

ERCOT has no comment on this question at this time.

- 21. What are the effects of implementing both Real Time Co-optimization (RTC) and marginal transmission losses on reliability and price formation?**

ERCOT Response:

ERCOT does not foresee an impact on reliability or price formation from the implementation of both RTC and marginal losses beyond the individual impacts of these two proposals.

- 22. Are there any synergies that may result from contemporaneous adoption of both RTC and marginal transmission losses?**

ERCOT Response:

Please see the response to question 14 in the comments filed by ERCOT in Project 48540, *Review of Real-Time Co-optimization in the ERCOT Market*.

23. What are the effects on retail customers and the retail market from the implementation of both RTC and marginal transmission losses?


ERCOT Response:

ERCOT has no comment on this question at this time.

II. Conclusion

ERCOT appreciates the opportunity to comment on these issues and would be pleased to provide the Commission any additional information or analysis it may need in evaluating the integration of marginal losses in SCED.

Respectfully submitted,



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