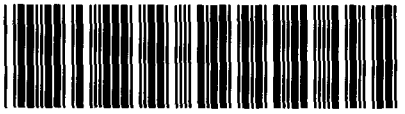

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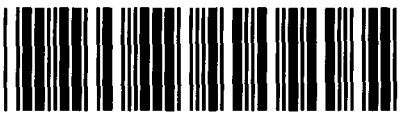

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PROJECT NO. 48539

REVIEW OF THE INCLUSION OF MARGINAL LOSSES IN SECURITY-CONSTRAINED ECONOMIC DISPATCH	§ § § §	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS OF ENVIRONMENTAL DEFENSE FUND OF TEXAS, INC.

COMES NOW, Environmental Defense Fund of Texas, Inc. ("EDF") and files these comments in response to the questions presented by the Staff of the Public Utility Commission of Texas ("Commission" or "PUCT") as published in the Texas Register on August 24, 2018.[1] EDF is a non-profit, non-partisan, non-governmental environmental organization that combines law, policy, science, and economics to find solutions to today's most pressing environmental problems. EDF appreciates the opportunity to provide these comments.

DISCUSSION

Two of Texas' largest natural gas electricity generators, Calpine Corporation and NRG Energy, have proposed that the Commission adopt a policy requiring ERCOT to switch from the recovery of transmission losses by uplifting to Load Serving Entities ("LSE") the actual cost of transmission losses realized on a load ratio share basis to a new approach that would assign the cost of marginal transmission losses to generation resources.[2] This proposal would function as a penalty system that would benefit a few electricity generators located in the Houston Load Zone at the expense of the rest of the state. The proposal also would stifle the growth of clean energy

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1 43 TexReg 5602-5603 (Aug. 24, 2018).

2 *Commission Proceeding to Ensure Resource Adequacy in Texas,* Project No. 40000, Calpine Corp. and NRG Energy, Inc., Report, Priorities for the Evolution of an Energy-Only Market in ERCOT (May 10, 2017) ("Hogan-Pope Report").

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and the environmental benefits it provides and cause Texas to forgo nearly $4.6 billion in energy cost savings projected to otherwise result over the next 20 years.[3]

The Electric Reliability Council of Texas ("ERCOT") currently accounts for lost electricity by averaging all transmission losses across the state's grid.[4] Using those averages, ERCOT then charges LSEs – like retail electric service providers, electric cooperatives, and publicly-owned utilities – for a percent of the total power lost in proportion to the amount of electricity the LSE sells to its customers.[5] The current approach allows for power plants to be built away from highly-populated areas in the state, including away from areas with tough air-quality challenges, as well as in West Texas where solar and wind resources are strong.

Calpine's and NRG's proposal would take a different approach. Transmission losses and the related charges would be based on a "penalty factor" – a *calculated* amount of transmission losses based on a power generator's distance from the center of load, also called a regulatory reference bus.[6] The generator would be charged for the calculated losses. The penalty would add more transmission losses the farther a coal plant or wind turbine is from the reference point.[7] Conversely, the penalty would add less transmission losses the closer the generator is located to the reference point. In Calpine and NRG's current marginal loss proposal, the "center of load," or

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3 *Project to Assess Price-Formation Rules in ERCOT's Energy-Only Market*, Project No. 47199, Informational Filing by Invenergy LLC. Report: The Long-Term Impacts of Marginal Losses on Texas Electric Retail Customers at 5 and 14 (Apr. 20, 2018) ("PA Consulting Study").

4 Project No. 47199, ERCOT Studies on Benefits of Real-Time Co-optimization and Marginal Losses, Attachment B, at 1 ("ERCOT Study").

5 Hogan-Pope Report at 44.

6 Hogan-Pope Report at 42; see also Project No. 47199, First Solar Inc., Vistra Energy Corp., and the Wind Coalition Analysis of Marginal Losses Proposal at 6 (Oct. 12, 2017) ("Brattle Group Study") (page references are to the Bates pagination of the filing).

7 Project No. 48539, PUC Competitive Markets Division, Open Meeting August 9, 2018; Agenda Item No. 14; Discussion and Possible Action with Respect to Publication of Questions for Comment at 5 (Aug. 2, 2018).

reference bus, would be in the Houston Load Zone where both Calpine and NRG have significant generation resources.[8]

In its recent study, ERCOT projects that power plants around Houston and South Texas would increase their revenues if the proposed marginal-loss method were implemented.[9] On the other hand, the proposal would penalize generators – whether in Dallas, East Texas, or West Texas – just because they're not near Houston.

Furthermore, marginal losses would discourage efficient siting of new power plants. Investors would forgo building in less-populated areas and areas with more potential for wind and solar to instead be encouraged to build in and near the Houston Load Zone. Houston is already Texas' most populated city, with serious clean air and public health challenges in the state. Building more power plants near there is not a good idea, as they would worsen these challenges for the 7 million Texans who live in this area.

Since ERCOT's current approach is rooted in how much electricity the grid actually loses, the amount of money ERCOT collects for losses more or less matches what's actually lost and owed. The marginal losses method, however, uses *calculated* losses, and ERCOT estimates it would collect more than $280 million per year, or approximately twice the amount of money it currently collects to cover the cost of transmission losses.[10] This introduces to the market a second key and new policy question: Who gets the surplus? The gap between the reasons for the charges

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8 Brattle Group Study at 16; ERCOT Study at 3.

9 ERCOT Study at 3-4; see also Questions Regarding ERCOT's Marginal Loss Study at 1-2 (Sept. 6, 2018) (accessible at http://www.ercot.com/mktinfo/rtm/marginallosses

10 ERCOT Marginal Losses Study Q&A (Aug. 20, 2018) at 1 (available at http://www.ercot.com/content/wcm/key_documents_lists/160763/Questions_on_ERCOT_ML_study_08202018.docx); Project No. 47199, ERCOT's Second Report in Response to Commission Staff's Request at 6 (Sept. 29, 2017).

versus actual losses means any approach to redistribute excess funds would, to a certain degree, be arbitrary.

According to a study by PA Consulting on the impact to the state if ERCOT were to include marginal transmission losses in energy pricing, the method would cost Texas clean energy growth and cause the state to forgo nearly $5 billion in energy cost savings projected to otherwise result over the next 20 years from that growth. The same study projects marginal losses would cause Texas to miss out on $7.1 billion in related economic activity and adding more than 29,000 full-time employees.[11]

In addition to the adverse economic impacts, reducing the state's growth in clean energy also will undermine Texas' efforts to conserve water and reduce air pollution. Clean energy helps Texas address two of the largest threats to continued growth in Texas – compliance with air quality requirements and water availability. Texas is blessed with abundant natural wind and solar resources, and generating electricity using these resources is virtually emission and water free. Increased use of clean energy resources enables Texas to avoid adding more generation resources (or increasing production from existing resources) in already over-burdened air sheds and reduces the water demand and use that otherwise would result.

The Houston-Galveston-Brazoria region already is nonattainment for ozone. While significant progress has been made to reduce ozone in the region, encouraging more generation resources to locate in the Houston region or existing resources to increase their output due to the implementation of marginal losses would undermine this progress. In addition, since these actions could decrease the use of water free wind and solar power, additional burden would be placed on

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[11] PA Consulting Study at 5 and 14-21.

the state's water supply. The result, in both instances, is to make additional economic development in the region more difficult.

According to the Texas Water Development Board in its 2017 State Water Plan, demand for water by the power generation sector is "expected to increase in greater proportion than any other water use category, from 953,000 acre-feet per year in 2020 to 1.7 million in 2070."[12] From a water consumption perspective, water use by the power generation sector is expected to increase exponentially over the next 50 years, from a projected annual consumption of 199,000 acre-feet in 2020 to 769,000 acre feet in 2070.[13] In order to reduce the need to construct the new reservoirs that the Water Development Board expects will be needed to meet future water needs in the state, and the potential for private property takings in the process, the state should increase its utilization of wind and solar generation resources which are less water-intensive resources.

The Calpine/NRG marginal losses proposal is a step in the wrong direction. It would add uncertainty to the wholesale electric market, discourage investment in new clean energy generation that would reduce water use in the power sector and air emissions in major urban areas where most Texans live, and lead to Texas consumers and industry paying more for their electricity. ERCOT's current approach to covering the cost for transmission losses is working well. Marginal losses would only mean big losses for Texans.

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12 Texas Water Development Board, 2017 State Water Plan at 6 (May 19, 2016).

13 *Id.* at 78.

EDF'S REPLIES TO SELECT QUESTIONS

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) Security-Constrained Economic Dispatch (SCED) over the long term?

While some other markets include marginal transmission losses in energy pricing, Texas' market is unique. It's also working well as is, even during the hot summer months of 2018 that were expected to be challenging due to a tighter reserve margin.[14] Furthermore, the PA Consulting's study shows that, over the next 20 years, the marginal loss method would cost Texas clean energy growth and cause the state to forgo nearly $5 billion in energy cost savings projected to otherwise result over the next 20 years from that growth. The same study projects marginal losses would cause Texas to miss out on $7.1 billion in related economic activity and adding more than 29,000 full-time employees.[15]

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 projections regarding the impact of including marginal transmission losses in energy pricing are only for the year 2020.[16] In its report regarding its analysis of the potential impact of implementing marginal losses in ERCOT, the consulting firm ICF noted an important caveat about the one-year studies, "This is a single year assessment that doesn't account how inclusion of marginal losses may affect the economic viability of future renewable projects. Additionally, it doesn't review how marginal losses incentivizes some oil/gas steam and coal units

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14 *Review of Summer 2018 ERCOT Market Performance,* Project No. 48551, ERCOT's Review of Summer 2018; *see also* ERCOT, *Summary of ERCOT Market Performance for Summer 2018* (Sept. 24, 2018) (available at http://www.ercot.com/content/wcm/lists/144927/2018_Summer_Performance_One_Pager_FINAL.pdf).

15 PA Consulting Study at 5 and 14.

16 Questions on ERCOT ML Study 09022018a at 2 (Sept. 5, 2018) (available at http://www.ercot.com/content/wcm/key_documents_lists/160763/Questions_on_ERCOT_ML_study_09052018a.docx).

to continue operating in the ERCOT Houston and North. These may have meaningful impact on future entry/exit decisions."[17]

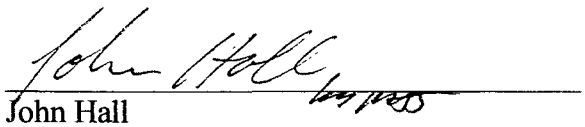
12. How would the implementation of marginal transmission losses affect the composition of the generation fleet in ERCOT?

Because investors would be incentivized to build nearer to Houston rather than areas in the state with greater wind and solar energy potential, EDF expects there would be less renewable energy resources developed in Texas because those sites closer to Houston have less wind and solar energy potential.

CONCLUSION

EDF appreciates the opportunity to provide these reply comments and looks forward to working with the Commission and interested stakeholders on these issues.

Respectfully submitted,



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October 8, 2018

[17] Parmer, Himali; Loizou, Harris; Maurya, Rakesh. *Here's What May Happen if ERCOT Introduces Marginal Losses*. Fairfax, VA: ICF at 3 (Nov. 2017).