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PROJECT NO. 54584

RELIABILITY STANDARD FOR THE ERCOT MARKET	**§ §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

OFFICE OF PUBLIC UTILITY COUNSEL'S REPLY COMMENTS ON INITIAL COMMENTS OFFERED IN RESPONSE TO COMMISSION STAFF'S QUESTIONS FOR STAKEHOLDER COMMENTS

The Office of Public Utility Counsel ("OPUC"), representing the interests of residential and small commercial consumers in Texas, respectfully submits these reply comments to those initial comments offered by various stakeholders on Staff of the Public Utility Commission's ("Staff") request for comments on the Reliability Standard for the Electric Reliability Council of Texas ("ERCOT") Market. Commission Staff's Memo and Questions for Stakeholder Feedback requests reply comments by April 5, 2023, therefore OPUC's reply comments are timely filed.

REPLY TO RESPONSE TO REQUEST FOR COMMENT

Twenty-three stakeholders filed comments with the Commission in response to Staff's request. Those comments can be divided into several key factors that some or most of the stakeholders recommend that the Public Utility Commission of Texas ("Commission") consider. OPUC has compiled these factors along with the commenting stakeholders that appear to support the factors:

1. The Commission should clarify how other reliability metrics are expected to interact with each other and with the reliability standard, and what the purpose of the reliability standard will serve in the market.

OPUC[1]
Texas Public Power Association ("TPPA")[2]

2. The Commission should further analyze proposed reliability metrics and related market impact before it proceeds with a reliability framework. The Commission should proceed cautiously and

[1] Office of Public Utility Counsel's Initial Comments to Commission Staff's Questions for Stakeholder Comments at 4 (Mar. 29, 2023). (OPUC)

[2] Texas Public Power Association's Response to Staff Questions for Comment at 2-3 (Mar. 29, 2023). (TPPA)

conduct extensive studies regarding each proposed metric to avoid false precision and undue cost on consumers.

Steering Committee of Cities Served by Oncor ("SCCSO") and Texas Coalition for Affordable Power ("TCAP")[3]
TPPA[4]

3. Keep the development of a reliability standard simple so the market understands it.

Texas Oil & Gas Association ("TXOGA")[5]

4. Loss of Load Expectation ("LOLE") is an inadequate metric on its own because it provides limited information on a shortfall's event size and duration. A reliability standard that considers the size, frequency and duration of potential shortfalls is essential to finding the right resource solutions.

OPUC[6]
Advanced Power Alliance ("APA") and the American Clean Power Association ("ACP")[7]
CPS Energy[8]
Electric Reliability Council of Texas ("ERCOT")[9]
Form Energy[10]
London Economics International ("LEI")[11]
NRG Energy[12]
Rocky Mountain Institute ("RMI")[13]

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[3] The Steering Committee of Cities Served by ONCOR and Texas Coalition for Affordable Powers' Comments on the Reliability Standard for the ERCOT Market at 2 (Mar. 29, 2023). (SCCSO & TCAP)

[4] TPPA at 5.

[5] Texas Oil and Gas Association's Comments at 2 (Mar. 29, 2023). (TXOGA)

[6] OPUC at 4-5.

[7] The Advanced Power Alliance and American Clean Power Association Comments at 10 (Mar. 29, 2023). (APA & ACP)

[8] CPS Energy's Response to Staff Questions for Comment at 2-3 (Mar. 29, 2023) (CPS)

[9] Comments of Electric Reliability Council of Texas, Inc. in Response to Commission Staff's Questions at 2 (Mar. 29, 2023). (ERCOT)

[10] Comments of Form Energy at 8 (Mar. 29, 2023). (Form)

[11] London Economics International, LLC Economic Considerations for Setting Reliability Standards for the Wholesale Power Market in Texas at 4 (Mar. 29, 2023) (LEI)

[12] NRG Energy, Inc.'s Comments in Response to Commission Staff Questions Concerning the Reliability Standard for the ERCOT Market at 1-2. (Mar. 29, 2023) (NRG)

[13] RMI Comments Re: PUC of Texas Memorandum Regarding Project No. 54584 - Reliability Standard for the ERCOT Market at 2 (Mar. 29, 2023). (RMI)

Texas Advanced Energy Business Alliance ("TAEBA")[14]
Texas Industrial Energy Consumers ("TIEC")[15]
Texas Solar Power Association ("TSPA") and the Solar Energy Industries Association ("SEIA")[16]
Vistra Corp.[17]

5. Explicitly adopt a specific reliability standard applicable to all loads, measured by Expected Unserved Energy (EUE) at an equivalent level of reliability to the 1-in-10 LOLE.

Constellation Energy Generation ("Constellation")[18]
Form Energy[19]
Hunt Energy[20]
Lower Colorado River Authority ("LCRA")[21]
NRG Energy[22]
TIEC (along with Value of Lost Load – ("VOLL"))[23]
TXOGA (along with VOLL)[24]

6. Keeping LOLE is important, and if other metrics can be added for a more complete picture as a result of analysis, only then should those be considered.

NextEra Energy Resources ("NextEra")[25]
LCRA[26]

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[14] Comments of Texas Advanced Energy Business Alliance at 1 (Mar. 29, 2023) (TAEBA)

[15] Texas Industrial Electric Consumers' Comments at 4 (Mar. 29, 2023) (TIEC)

[16] Joint Comments of Texas Solar Power Association and Solar Energy Industries Association on Staff Questions at 3 (Mar. 29, 2023). (TSPA & SEIA)

[17] Vistra Corp.'s Comments at 4 (Mar. 29, 2023). (Vistra)

[18] Constellation Energy Generation, LLC's Comments in Response to Staff's Questions at 2 (Mar. 29, 2023). (Constellation)

[19] Form at 5-6.

[20] Comments by Hunt Energy Network, LLC at 1 (Mar. 29, 2023).

[21] Lower Colorado River Authority's Response to Staff Questions for Comment at 1 (Mar. 29, 20213). (LCRA)

[22] NRG at 2-3.

[23] TIEC at 15.

[24] TXOGA at 1-2.

[25] NextEra Energy Resources, LLC's Comments at 6 (Mar. 29, 2023) (NextEra)

[26] LCRA at 1.

SCCSO and TCAP[27]
South Texas Electric Cooperative ("STEC")[28]

7. If a reserve margin-based reliability standard is developed, then it should be a target reliability standard (energy based) and not mandated reliability standard (capacity based).

Shell Energy[29]

8. The Commission should determine a curve for the VOLL of different market segments, as VOLL will vary by each individual customer and could be extremely dynamic.

OPUC[30]
TSPA and SEIA[31]

9. Ensure the reliability standard is sufficient across all seasons.

OPUC[32]
Constellation[33]
CPS Energy (as part of a second phase implementation)[34]
Form Energy[35]
LCRA[36]
NextEra (but the additional complexity should be weighed against potential cost savings)[37]

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[27] SCCSO & TCAP at 2.

[28] South Texas Electric Cooperative, Inc.'s Initial Comments to Commission Questions on the Reliability Standard for the ERCOT Market at X (Mar. 29, 2023) (STEC)

[29] Shell Energy North America's Comments in Response to Commission Staff Questions Concerning the Reliability Standard for the ERCOT Market at 3 (Mar. 29, 2023) (Shell)

[30] OPUC at 6.

[31] TSPA & SEIA at 7.

[32] OPUC at 8.

[33] Constellation at 2.

[34] CPS at 5-6.

[35] Form at 8.

[36] LCRA at 3.

[37] NextEra at 6.

NRG Energy[38]
TSPA and SEIA[39]

10. Seasonal considerations should be avoided.

LEI (the reliability standard should be the same across all seasons but the requirement to achieve the reliability standard can be seasonal)[40]
SCCSO and TCAP[41]
TIEC[42]
Vistra Corp.[43]

11. Even with adequate generation, bottlenecks in the transmission system interfere with the delivery of electric power. It is critical to include quantifiable transmission benefits in the transmission planning process to ensure adequate delivery of available resource output to load.

OPUC[44]
APA and ACP[45]
CPS Energy[46]
ERCOT[47]
SCCSO and TCAP[48]
Dr. Eugene Preston[49]
LEI (If the simulation model captures enough granular detail about resources' performance, then the reliability standard would also include deliverability risk)[50]

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[38] NRG at 4.

[39] TSPA & SEIA at 9.

[40] LEI at 5.

[41] SCCSO & TCAP at 4.

[42] TIEC at 10.

[43] Vistra at 5.

[44] OPUC at 7.

[45] APA & ACP at 10.

[46] CPS Energy at 6-7.

[47] ERCOT at 3.

[48] SCCSO & TCAP at 2-3.

[49] Comments by Eugene G. Preston, PE, PhD Wind and Solar Transmission Siting Consulting Service at 1 (Mar. 29, 2023) (EP)

[50] LEI at 5.

TPPA[51]
TSPA and SEIA[52]

12. Locational requirements are not needed at this time, as the transmission processes already in place account for locational differences.

ERCOT[53]
LEI (the reliability standard should be system-wide but the market mechanism to achieve the reliability standard can have different locational requirements)[54]
NRG Energy[55]
SCCSO and TCAP[56]
TIEC[57]
Vistra Corp.[58]

13. Correct accreditation of all resources is an important element of the reliability standard.

NextEra[59]

14. Ensure the current market design is sufficient to meet the reliability standard by committing to making the necessary adjustments to achieve that standard.

Constellation[60]

[51] TPPA at 7.

[52] TSPA and SEIA at 4.

[53] ERCOT at 4.

[54] LEI at 5.

[55] NRG at 6.

[56] SCCSO & TCAP at 3.

[57] TIEC at 2-3.

[58] Vistra at 5.

[59] NextEra at 6.

[60] Constellation at 5.

15. Continue to engage all stakeholders for additional feedback once ERCOT has conducted its preliminary study.

OPUC[61]
Constellation[62]
TIEC[63]
TXOGA[64]

16. Undertake a more dynamic review of the reliability standard, with a periodic review schedule potentially coupled with an input deviation trigger to allow for the standard to keep up with the grid as it evolves.

OPUC[65]
CPS Energy[66]
ERCOT[67]
STEC[68]
TSPA and SEIA[69]

17. The Commission should prioritize regulatory certainty and market stability and, therefore, only update the calculation for the requirements necessary to meet the reliability standard after a significant change in circumstances or technology.

LEI (but update the market mechanism regularly)[70]
SCCSO and TCAP[71]
TPPA[72]
Vistra Corp. (but update reliability metrics regularly)[73]

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[61] OPUC at 9.

[62] Constellation at 5.

[63] TIEC at 15.

[64] TXOGA at 2.

[65] OPUC at 9.

[66] CPS at 7-8.

[67] ERCOT at 6.

[68] STEC at 8.

[69] TSPA and SEIA at 2.

[70] LEI at 7.

[71] SCCSO & TCAP at 4.

[72] TPPA at 7.

[73] Vistra at 6.

18. Microgrids and Distributed Energy Resources ("DER") provide highly flexible loads that can either respond for calls to reduce load, or that can inject into the system as supply-side resources. These resources fundamentally change the nature of the grid and should be considered in developing a reliability standard.

> LEI (If the modeling to determine the reliability metric already considers DER, then the reliability standard already captures those resources' contribution to system reliability)[74]
> Microgrid Resources Coalition (MRC)[75]
> NRG Energy[76]
> RMI[77]
> STEC[78]
> TAEBA[79]

19. Demand-side resources should be given equal consideration as potential solutions to address reliability concerns.

> LEI (If the modeling to determine the reliability metric already considers load resources, then the reliability standard already captures those resources' contribution to system reliability)[80]
> MRC[81]
> NRG Energy[82]
> RMI[83]
> STEC[84]
> TAEBA[85]

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[74] LEI at 6.

[75] Comments of the Microgrid Resources Coalition at 5 (Mar. 29, 2023). (MRC)

[76] NRG at 4-5.

[77] RMI at 5.

[78] STEC at 8.

[79] TAEBA at 4.

[80] LEI at 6.

[81] MRC at 5.

[82] NRG at 4-5.

[83] RMI at 1.

[84] STEC at 8.

[85] TAEBA at 6.

In addition to the comments provided by the stakeholders, two commenters, ERCOT and TIEC, reference a study prepared by Energy Systems Integration Group titled *Redefining Resource Adequacy for Modern Power Systems*.[86] OPUC finds this study to have numerous items worthy of consideration as the Commission moves forward in establishing a new reliability standard. Key items included in the study are summarized below:

- As the power system's resource mix changes, resource adequacy metrics need to be transformed as well.[87]
- [R]eliability events are now more varied; therefore, understanding the size, frequency, duration, and timing of potential shortfalls is essential to finding the right resource solutions.[88]
- [R]esource adequacy analysis should pay attention not just to the expected values, but to potential tail events.[89]
- Improved utilization of existing metrics and visualizations must move beyond average values.[90]
- [T]he 1-day-in-10-year LOLE criterion is an arbitrary line in the sand. System planners and regulators set the criteria and determine a portfolio to be reliable or not, regardless of the costs incurred to ratepayers. Decisionmakers are left without knowledge of the costs necessary to achieve the target reliability, and they rarely consider the costs and benefits of measures taken to increase reliability.[91]
- Although it may be impossible to identify an economically efficient reliability level because it is hard to speculate how much reliability is worth to a diverse group of customers, there needs to be a clear understanding among policymakers, regulators, and system planners of what incremental reliability costs consumers.[92]

OPUC notes the general agreement among most stakeholders regarding certain important issues raised by Staff in its request for comments, including a general acknowledgment that a more robust standard is necessary because a metric measuring only frequency has proven to be

[86] Energy Systems Integration Group's *Redefining Resource Adequacy for Modern Power Systems* available at https://www.esig.energy/resource-adequacy-for-modern-power-systems/ (Nov. 2021).

[87] *Id.* at 10.

[88] *Id.* at 10.

[89] *Id.* at 12.

[90] *Id.* at 13.

[91] *Id.* at 25.

[92] *Id.* at 26.

inadequate. A number of stakeholders recognized that both duration and magnitude are also critical factors in determining an appropriate standard. In addition, most stakeholders supported some form of flexibility in the standard, such as recognition of seasonal or locational differences in the adopted standard. Finally, many stakeholders voiced support for a periodic review of the adopted standard because the underlying statistics supporting the standard will change over time, and the Commission should ensure that the standard remains relevant and appropriate. Setting aside those issues receiving overwhelmingly widespread stakeholder support, OPUC would like to offer reply comments to address two specific concerns:

A. CLARIFICATION OF THE PURPOSE OF THE RELIABILITY STANDARD

First, OPUC agrees with the comments of TPPA that the Commission needs to clarify the purpose of the reliability standard.[93] As explained in OPUC's initial comments, the reliability standard should be more robust than just a data point to be noted and filed away,[94] and breaching the limits of an established reliability standard should be viewed as a form of "market failure."[95] OPUC believes it would be more prudent to determine in the current evaluation what the response should be to improve a reliability measure that falls below "standard" so that the Commission can avoid the inevitable delays associated with finding an adequate solution only once the problem emerges. Looking at the current measures for improvement of grid reliability under consideration, OPUC reiterates its position that while a Performance Credit Mechanism could be utilized as an ongoing mechanism to incent future generation growth, if the reliability standard is breached a more robust solution to the problem would have to be triggered. Such an approach would allow the market to resolve grid reliability on its own up until the point that market forces fail to do so, at which time prescriptive measures would be triggered to ensure protection of the interests of all parties reliant on the grid.

[93] TPPA at 3.

[94] OPUC at 4.

[95] OPUC at 4 and 11.

B. USE OF GENERIC VALUED VARIABLES IN DEVELOPING THE RELIABILITY STANDARD

Second, in its initial comments, OPUC cautioned against the use of generic valued variables to the extent possible when developing a reliability standard.[96] One such generic "one size fits all" factor would be the use of a prescribed VOLL. OPUC concurs with those comments filed by TIEC that "it is not necessarily correct to apply a single VOLL at all times."[97] Indeed, OPUC's position is that VOLL will be different based on a number of factors that include: (1) duration of outage, (2) severity of weather conditions, (3) cost of real time energy exposure, and (4) any number of other potential factors. In fact, comments filed by TSPA and SEIA reference this concept using the example of a grocery store easily withstanding a five-minute outage, but potentially facing a much greater exposure of spoiled products under a longer-term outage.[98] OPUC believes there are as many potential VOLLs as there are customers in ERCOT, necessitating a wide swath of variables be taken into consideration, including those previously mentioned. For this reason, OPUC urges the Commission proceed cautiously with utilizing VOLL in determining a reliability standard.

CONCLUSION

OPUC appreciates the opportunity to provide these reply comments and looks forward to working with Commission Staff and other stakeholders on this project.

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[96] OPUC at 7.

[97] TIEC at 5.

[98] TSPA & SEIA at 6-7.

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OFFICE OF PUBLIC UTILITY COUNSEL'S REPLY COMMENTS ON INITIAL COMMENTS OFFERED IN RESPONSE TO COMMISSION STAFF'S QUESTIONS FOR STAKEHOLDER COMMENTS

EXECUTIVE SUMMARY

1. The Office of Public Utility Counsel ("OPUC") notes the general agreement among most stakeholders regarding certain important issues raised by Staff of the Public Utility Commission in its request for comments, including a general acknowledgment that a more robust standard is necessary because a metric measuring only frequency has proven to be inadequate.

2. A number of stakeholders recognized that both duration and magnitude are also critical factors in determining an appropriate standard. In addition, many stakeholders supported some form of flexibility in the standard, such as recognition of seasonal or locational differences in the adopted standard.

3. Many stakeholders voiced support for a periodic review of the adopted standard, because the underlying statistics supporting the standard will change over time, and the Commission should ensure that the standard remains relevant and appropriate.

4. OPUC agrees with the comments of Texas Public Power Association that the Public Utility Commission of Texas needs to clarify the purpose of the reliability standard.

5. OPUC cautions against the use of generic valued variables to the extent possible when developing a reliability standard. One such generic "one size fits all" factor would be the use of a prescribed Value of Lost Load ("VOLL"). OPUC concurs with those comments filed by Texas Industrial Energy Consumers ("TIEC") that "it is not necessarily correct to apply a single VOLL at all times."

    a. OPUC's position is that VOLL will be different based on a number of factors that include: (1) duration of outage, (2) severity of weather conditions, (3) cost of real time energy exposure, and (4) any number of other potential factors.

6. Commenters Electric Reliability Council of Texas and TIEC reference a study prepared by Energy Systems Integration Group titled *Redefining Resource Adequacy for Modern Power Systems*, which OPUC finds to have numerous items worthy of consideration as the Commission moves forward in establishing a new reliability standard.