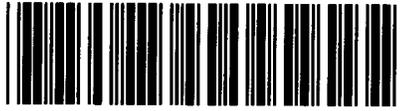


Control Number: 40000



Item Number: 244

Addendum StartPage: 0

PROJECT NO. 40480

PROCEEDING REGARDING
POLICY OPTIONS ON RESOURCE
ADEQUACY

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PUBLIC UTILITY COMMISSION
OF TEXAS

12 JUL 11 PM 2:14
FOLLOWING CLERK

COMMENTS OF TEXAS COMPETITIVE POWER ADVOCATES

Texas Competitive Power Advocates (“TCPA”)¹ appreciates the opportunity to file these comments regarding the Brattle Group’s useful and informative report entitled “ERCOT Investment Incentives and Resource Adequacy” (the “Brattle Report”).

I. Issues Addressed

In recent comments,² TCPA agreed with the Brattle Report’s recommendation that the Commission and ERCOT “first clarify the fundamental design objectives of ERCOT’s resource adequacy construct,”³ and following this decision, that the Commission decide how such objectives should be implemented.⁴

Pursuant to the June 27, 2012 notice of workshop in this project (“Notice”) and clarification by Commission staff, TCPA’s comments here address what the long-term reliability objectives for ERCOT should be but do not address what policy options should be used to meet those objectives or technical questions about the methodologies in the Brattle Report.⁵

¹ The comments contained herein represent the position of TCPA as an organization, but not necessarily the views of any particular member with respect to any issue. For more information on TCPA, including a list of its members, please visit our website at www.competitivepower.org.

² *PUC Rulemaking to Amend PUC Subst. R. 25.505, Relating to Resource Adequacy in the Electric Reliability Council of Texas Power Region*, Project No. 40268, Initial Comments of Texas Competitive Power Advocates (Jun 15, 2012) at 4.

³ Brattle Report at 100.

⁴ *Id.* at 103.

⁵ TCPA understands that the Commission intends to take up the policy options to meet long-term resource adequacy objectives at a later time, that increasing the high and low system-wide offer cap and peaker net margin is being addressed in Project No. 40268, and that technical questions about methodologies underlying the Brattle Report are to be directed to ERCOT.

244

II. Preliminary Agenda for the July 27, 2012 Workshop

The preliminary agenda provides for presentations by the Brattle Group, ERCOT and the Independent Market Monitor.⁶ TCPA respectfully recommends that the Texas Reliability Entity (“TRE”) also be invited to speak. ERCOT and many stakeholders, including generators, must comply with federal electric reliability standards that TRE administers for the ERCOT region. Obtaining TRE’s perspective as well would be valuable as the Commission considers issues relating to long-term reliability objectives for ERCOT.

III. What Should Be the Long-Term Reliability Objectives for ERCOT?

A. Should the Target Level of Reliability in ERCOT Be Allowed to Float with Market Dynamics?

Reserve capacity is necessary to maintain a reliable system in electric markets. Operating reserves are needed to manage unexpected hourly increases in load or decreases in available capacity. Planning reserves include operating reserves, and are necessary to address the uncertainties of long- and short-term forecasting of loads, weather, outages, retirements and changes in system topology.

ERCOT’s target reserve margin was developed pursuant to a loss of load event (“LOLE”) study that is inconsistent with the economic equilibrium reserve margins characteristic of an energy-only market. The Brattle Report defines an economic equilibrium reserve margin as the level at which generation developers are likely to invest, which, in turn, is when energy margins exceed the cost of new entry.⁷ The current annual planning reserve margin target in ERCOT is 13.75%, which equates to a LOLE of one event in ten years (“1-in-10”). According to the Brattle Report, a 15.25% reserve margin is needed to obtain the same reliability target if 2011 weather is

⁶ Notice at 1-2.

⁷ Brattle Report at 54.

included.⁸ The Brattle Report calculated the economic equilibrium reserve margin at 6.1% under the current price caps, and approximately 10% at a price cap of \$9,000, both significantly under the LOLE reserve margin target.⁹ It concludes: “Our key finding is that all scenarios fall short of the 0.1 LOLE target reserve margin. Even with the highest price caps, ERCOT is projected to experience an annual average of 0.9 loss-of load events, and is exposed to the risk of experiencing more than 30 loss-of-load hours under extreme 2011 weather conditions.”¹⁰

ERCOT’s 1-in-10 LOLE criterion is industry-standard.¹¹ The Brattle Report notes that “ERCOT and many other system operators interpret the 1-day-in-10-years standard as ‘1 outage event in 10 years . . .’¹² Regions that, like ERCOT, use a 1 load shed event in 10 years standard include PJM,¹³ ISO-NE¹⁴ and NYISO.¹⁵

⁸ *Id.* at 55.

⁹ *Id.* at 3.

¹⁰ *Id.* at 64.

¹¹ NERC recently stated:

Perhaps the most widely recognized index of reliability is Loss of Load Expectation (LOLE), also known as Loss of Load Probability (LOLP), which is ordinarily measured in days per year. These probabilistic values can then be used to determine what level of Planning Reserve Margin is needed in order to meet a “1 day in 10” loss of load. Like generation and demand distributions, the LOLE is also a distribution. The ability to serve load without Firm load interruption for every peak hour for ten years, except for one, is an industry-accepted, non-binding planning guideline. The resulting Planning Reserve Margin target is one that is probabilistically associated with the “1 day in 10” loss of load expectation (*i.e.*, LOLE = 0.1).

North American Electric Reliability Corporation, 2012 Summer Reliability Assessment (May 2012), available at <http://www.nerc.com/files/2012SRA.pdf>, (“NERC 2012 Summer Assessment”) at 170.

¹² Brattle Report at 101.

¹³ See PJM Manual 20: PJM Resource Adequacy Analysis, © PJM 2011, Revision 04, Effective Date June 1, 2011), available at <https://www.pjm.com/~media/documents/manuals/m20.ashx>. The manual states in Section 1: Generating Capacity Requirement:

1.8 Compliance with *Reliability First Corporation* (RFC)

The required reliability standard for resource adequacy is expressed as a Loss of Load Expectation (LOLE) for the entire PJM RTO Region. Loss of Load is defined as invoking emergency operations procedures beyond demand resources and interruptible load for reliability. LOLE is expressed in terms of occurrences per year. PJM has adopted an LOLE planning criterion of 1-in-10 which is stated in the RFC Standard, BAL-502-RFC-02 effective December 4, 2008, and approved by Federal Energy Regulatory Commission (FERC) effective May 23, 2011. . . .

TCPA believes that ERCOT's reserve margin should be set at a level that will maintain the same reliability of electric service that Texas customers have come to expect. There is no evidence that, presented with the choice, Texas customers would choose a lower overall level of reliability than they enjoy currently or that is enjoyed in many other regions. Reliable electric service is vital to the health and safety of Texans and to economic activity. Public confidence that Texas' electric service will stay reliable is vital to continued economic growth in this state.

Section 1.8 goes on to state:

The PJM interpretation of BAL-502-RFC-02 is consistent with the version 1 language of this Standard which stated in section R1; —*The Loss of Load Expectation (LOLE) for any load in RFC due to resource inadequacy shall not exceed one occurrence in ten years*". Working with the PJM stakeholders, PJM Staff is committed to adherence of this interpretation of the 1 in 10 LOLE Adequacy criteria.

¹⁴ See Reliability Planning Model for ICR-Related Values, available at http://www.iso-ne.com/rules_proceeds/isone_plan/

The ICR is the minimum level of capacity required to meet the reliability requirements defined for the New England Balancing Authority area. This requirement is documented in Section 2 of ISO New England Planning Procedure No. 3,13 *Reliability Standards for the New England Area Bulk Power Supply System*, which states:

"Resources will be planned and installed in such a manner that, after due allowance for the factors enumerated below, the probability of disconnecting non-interruptible customers due to resource deficiency, on the average, will be no more than once in ten years. Compliance with this criterion shall be evaluated probabilistically, such that the loss of load expectation (LOLE) of disconnecting non-interruptible customers due to resource deficiencies shall be, on average, no more than 0.1 day per year."

¹⁵ The New York State Reliability Council ("NYSRC") sets the reliability rules with which the NYISO must comply (in addition to complying with all NERC and NPCC rules). Because the NYSRC also sets the Installed Reserve Margin ("IRM") level, the NYISO's obligation is to put in place market mechanisms that assure that the IRM is met. The NYSRC rules state:

A-R1. NYCA Installed Reserve Margin Requirement The NYSRC shall establish the IRM requirement for the NYCA such that the probability (or risk) of disconnecting any firm load due to resource deficiencies shall be, on average, not more than once in ten years. Compliance with this criterion shall be evaluated probabilistically, such that the loss of load expectation (LOLE) of disconnecting firm load due to resource deficiencies shall be, on average, no more than 0.1 day per year. This evaluation shall make due allowance for demand uncertainty, scheduled outages and deratings, forced outages and deratings, assistance over interconnections with neighboring control areas, NYS Transmission System emergency transfer capability, and capacity and/or load relief from available operating procedures.

NYSRC Reliability Rules for Planning and Operating the New York State Power System, Version 31 (May 11, 2012) at 13-14.

NERC has noted: "Planning Reserve Margins are needed because a dependable supply of electricity is essential to the health, safety, and economic well-being of customers."¹⁶

That long-term reliability objectives should maintain the same expectation of reliability also comports with statutory requirements. PURA imposes numerous obligations to ensure reliable electric service.¹⁷ In addition, in the 1999 electric restructuring legislation (Senate Bill 7), the Texas Legislature directed that at least the same quality of electric service in ERCOT as existed at that time be maintained. Specifically, PURA § 39.101(f) requires the Commission to modify its rules regarding customer protections to ensure that at least the same quality of service that exists on December 31, 1999, is maintained in a restructured electric industry.

B. Should ERCOT's Annual Planning Reserve Margin Be Changed?

The next question is what annual planning reserve margin is needed to maintain the current level of reliability. The annual planning reserve margin used in ERCOT is already lower than in many regions. NERC has observed: "There are no NERC Reliability Standards which mandate maintaining a certain level of Planning Reserves. There is also no one appropriate margin for each utility, power pool, ISO/RTO, or Region. Operating conditions tend to be quite different because of such things as: changing weather conditions, characteristics of generation and transmission facilities, varying economic conditions, and customer demand patterns."¹⁸ ERCOT's facts, however, indicate that ERCOT needs at least as much operational flexibility as do other regions. NERC discussed operational issues that may challenge the electric industry "which would require increased flexibility to manage reliability impacts, such as weather

¹⁶ NERC 2012 Summer Assessment at 169.

¹⁷ See, e.g., Public Utility Regulatory Act, TEX. UTIL. CODE §§ 11.001-66.017 ("PURA"), §§ 39.151(a), describing ERCOT's function "to ensure the reliability and adequacy of the regional electrical network" and 39.351(b), requiring compliance with ERCOT's reliability standards "to ensure the reliability of the regional electrical network."

¹⁸ NERC 2012 Summer Assessment at 170.

(extended periods of high temperatures), long-term unavailability of generation, drought, and environmental restrictions (for cooling water). Many of these issues reflect the operating conditions expected in Texas.”¹⁹ Moreover, ERCOT is comparatively small and operates asynchronously from the other regions, with severely limited loop flows over its direct current ties. An atypical or unexpected event can significantly affect ERCOT’s reserves. For example, ERCOT’s 2012 Capacity, Demand, Reserves Report²⁰ shows reserves just above the minimum target level considered sufficient to maintain reliability for the peak season of 2013, based upon the likelihood of a 1-in-10 year LOLE standard. That level of reserves, however, depends on the mothballed units recalled to service for 2012 remaining in service during 2013, and on the Sandy Creek plant, currently delayed, entering commercial operation prior to the peak season of 2013. The May CDR Report shows the reserve margin in 2014 dropping significantly below the established 13.75% target.

The Brattle Report states: “Another important question is whether the PUCT and ERCOT should determine the desired level of bulk power reliability, or whether the reliability level should be determined solely through market forces. All other U.S. regulators have determined that reliability standards should be mandated, except to the extent that demand response allows customers to self-select a lower level of firm service. In those markets, bulk power reliability is treated as a public good with administratively-imposed standards . . .”²¹ The report continues: “Allowing market forces to determine the level of resource adequacy is one of the chief theoretical advantages of the textbook energy-only construct. . . . However, . . . this construct is

¹⁹ *Id.* at 5. See also Brattle Report at 24: “With the extreme weather in August [2011], the [ERCOT] realized reserve margin was only 9% compared to the 14% reserve margin that would have been realized under normal weather conditions. As 2011 has shown, reliability outcomes in Texas depend heavily upon the weather.”

²⁰ Posted on May 22, 2012, (“May CDR Report”).

²¹ Brattle Report at 103.

most effective with a substantial level of DR penetration that has not yet been achieved in ERCOT.”²²

TCPA concludes that the reserve margin should be a requirement – not a target – and should be set at a level that will maintain the same reliability of electric service that Texas customers have come to expect. We believe that the evidence to date is conclusive that the current energy-only market construct, without extensive non-competitive administrative intervention, will not deliver the level of resource adequacy, and thus reliability, that Texas consumers deserve. The reserve margin set must adequately allow for contingencies, as discussed above. TCPA takes no position on what specific reserve margin would accomplish those objectives. TCPA recommends that ERCOT, TRE or both weigh in on what reserve margin would maintain the current level of reliable electric service.

IV. What Policy Questions Should Be Addressed at the Workshop?

TCPA recommends that policy questions addressed at the workshop include the following:

1. Did the Brattle Group analyze the total economic cost to the State if the level of electric reliability were lowered?
2. The Brattle Report states: “Such reliance on scarcity pricing to ensure long-term reliability presents a challenge simply because higher planning reserve margins increase reliability but also decrease the frequency of scarcity pricing In other words, the high reserve margin needed for reliability eliminates the very scarcity that is required for recovering investment costs.”²³

²² *Id.* at 103.

²³ *Id.* at 65.

- How should this dilemma be considered when analyzing the appropriate level of ERCOT's reserve margin and the relationship between that level and actual achieved long-term resource adequacy?
3. The Brattle Report states: "A final policy question is whether, aside from a target or optimal level of reliability, the PUCT and ERCOT also wish to separately identify a lower 'minimum acceptable' level of reliability. For example, market outcomes may be allowed to vary from year to year around an economically optimal target. However, there may be a reserve margin level below which potential reliability outcomes would be unacceptable to customers and policy makers. It might be appropriate to define such a minimum resource adequacy level based on the total amount of load shedding that could occur under worst-case weather, such as that which occurred in 2011."²⁴
- Has the concept of allowing market outcomes to vary from year to year around an economically optimal target been applied elsewhere and if so where?
 - What are its advantages and disadvantages?
 - How would it work? For example, what function would the minimum resource adequacy level play in how ERCOT operates the grid, how the market functions, and how resources operate?

V. Conclusion

TCPA appreciates the Commissioners' swift action in opening Project No. 40480, scheduling the July 27, 2012 workshop, and seeking public comments on the issues addressed above. After the Commissioners' decision as to the level of reliability acceptable to Texas

²⁴ Brattle Report at 103.

electricity consumers and policy-makers, we urge the Commission to hold another series of workshops, beginning in September, to address whether such level can be obtained through market-only mechanisms or administratively determined, and options for achieving and sustaining over time the preferred reserve margin levels.

Respectfully submitted,

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