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PROJECT NO. 40268

PUC RULEMAKING TO AMEND PUC § PUBLIC UTILITY COMMISSION
SUBST. R. 25.505, RELATING TO §
RESOURCE ADEQUACY IN THE §
ERCOT POWER REGION § OF TEXAS

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TEXAS INDUSTRIAL ENERGY CONSUMERS' REPLY COMMENTS

I. INTRODUCTION

As recognized in the proposal for publication, the focus of the current rulemaking is to determine what changes, if any, should be made to the High Offer Cap (HCAP), the Low Offer Cap (LCAP) and the Peaker Net Margin (PNM) trigger. Texas Industrial Energy Consumers' (TIEC's) analysis demonstrates that a \$4,500 HCAP is sufficient to maintain resource adequacy under the current market construct.

TIEC is not opposed to considering the longer-term market changes recommended by the Brattle Report in relation to an energy-only market design. However, the more complex design adjustments recommended by the Brattle Report for an energy-only market, like implementing an administrative scarcity pricing curve and a Value of Lost Load (VOLL) price cap, cannot be adequately considered in the short timeframe for this rulemaking. Instead, those issues should be reserved for Project No. 40480, which appears to be the Commission's intent. As the Brattle Report notes, the Commission should not "implement major changes too quickly or without sufficient analytical support or stakeholder consideration."¹ Further, the Commission should not consider significant departures from the current market design, like transitioning to a capacity market, either in this rulemaking or in Project No. 40480. Setting aside the significant inefficiencies associated with a capacity market or similar market designs,² a complete overhaul of the existing market design would be costly and time-consuming, cannot be completed within a timeframe that would impact the current resource adequacy concerns, and would likely harm resource adequacy in the near term by creating additional uncertainty for the market.

¹ Brattle Report at 120.

² TIEC is prepared to address these issues in more detail at the appropriate time.

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TIEC's responses to the issues raised in other parties' initial comments are below.

I. REPLY COMMENTS

A. The comments support adoption of an HCAP no higher than \$4,500.

A surprising number of initial comments failed to provide any recommendation on the appropriate HCAP level, focusing instead on topics that are outside the scope of this proceeding like subsidies for renewable energy, or more comprehensive market design changes. Of the commenters that did make a recommendation, however, the majority supported a cap no higher than \$4,500 in this rulemaking, including TIEC, Luminant, LCRA, CPS, Calpine, Exelon, and the Joint Group of Competitive Texas Power Suppliers.

NRG states that it supports an offer cap up to \$9,000, but caveats this with a request to maintain an HCAP of \$4,500 until credit issues are resolved, and proposes to reach the \$9,000 level in conjunction with an "administrative pricing curve," as recommended by the Brattle Group.³ The Brattle Report recommendation to which NRG refers would require a gradual, administrative pricing curve that escalates the price over several thousand megawatts as different reliability actions are taken. This curve would allow loads to respond at various price points on the curve, culminating in a price cap that approximates the average Value of Lost Load (VOLL) when involuntary firm load shed is necessary.⁴ This type of price cap would serve a much different function from the current SWOC/HCAP, which is frequently triggered based on numerous operational events that fall far short of firm load shed.⁵ As discussed above and in TIEC's initial comments, implementing a VOLL price cap, an administrative pricing curve, and the other more comprehensive market changes the Brattle Report recommends in conjunction with an energy-only market design under Option 1 deserve further consideration, but are beyond the scope of this proceeding and should instead be considered as part of Project No. 40480. Without these more comprehensive changes, \$4,500 is the maximum appropriate HCAP level.

Cities suggests that the Commission do nothing further on the HCAP at this time, and instead wait to see the impact of the market changes that have been made so far over the summer. At most, however, Cities suggests that the Commission should retain a \$3,000 offer

³ NRG Comments at 5-6.

⁴ *Id.*; Brattle Report at 80.

⁵ NRG Comments at 5, n.5; *see* Brattle Report at 80.

cap to serve the purposes of the current HCAP, but allow prices to rise as high as \$9,000 only when load shed is occurring, consistent with the Brattle Report recommendations.⁶ Like TIEC, Cities notes that this further increase beyond the current level should be considered on a longer time frame.⁷

Given this, there appears to be a general consensus that the Commission should not adopt an HCAP any higher than \$4,500 under the current SWOC construct, and should only consider higher HCAPs or VOLL price caps along with appropriate “administrative pricing curves” in the context of more comprehensive market design changes in Project No. 40480. This path forward is consistent with the approach outlined in TIEC’s initial comments.

B. The Brattle Report does not reject energy-only markets.

Several commenters incorrectly imply that the ultimate conclusion to be drawn from the Brattle Report is that an energy-only market will not maintain adequate reliability.⁸ Some, like Topaz and Exelon, are even more direct in suggesting a capacity market.⁹ These commenters are incorrect as to the Brattle Report’s conclusions and analysis. The Brattle Report does not conclude that an energy-only market design cannot succeed. To the contrary, the Brattle Report lays out a specific set of changes that, if made, would allow an energy-only market to meet desired reliability and resource objectives.

The Brattle Report provides a comprehensive package of market design recommendations that would facilitate a successful, reliable energy-only market under “Option 1.” This package includes setting a price cap that approximates the average VOLL but would only be reached when actual firm load shed is occurring, and creating a gradual, administrative scarcity pricing curve up to that level.¹⁰ It also includes removing a number of inefficient market features that have been added over the past year.¹¹ According to the Brattle Group, a substantial

⁶ Cities Comments at 9. TIEC agrees that a price cap designed to approximate the VOLL should be triggered only when load is actually shed, which is completely different from the current energy-only construct, where the highest prices are set when *any* reserve is deployed.

⁷ Cities Comments at 5.

⁸ See, e.g., Comments from TCPA, Group of Competitive Texas Power Suppliers, Exelon, NRG, Topaz.

⁹ Topaz Comments at 5-6; Exelon comments at 4.

¹⁰ Brattle Report at 79-80.

¹¹ See *id.* at 72-80.

increase in market-based demand response would also be required. As the Brattle Report notes, “[i]f several thousand megawatts (MW) of price-responsive demand were added, those resources could prevent involuntary load shedding and set prices at customers’ willingness to pay, thereby increasing reliability and softening (but not eliminating) price spikes.”¹² In other words, rather than imposing random, involuntary firm load-shedding during extreme scarcity, customers would be able to curtail voluntarily based on their individual values of lost load, and this activity would contribute to price formation.¹³ As Brattle notes, “[w]ith this much demand response *ERCOT’S energy only market design could support the current bulk power reliability target under a \$9,000 price cap.*”¹⁴

Attempting to transition to a capacity-based market design at this time will not help the current resource adequacy concerns, and will substantially harm retail customers in ERCOT. Experience demonstrates that this type of major market design change will create substantial costs for consumers and will take many years to complete. Simply transitioning from one energy-only market design to another—a zonal market to a nodal market—took more than seven years and cost more than \$600 million dollars. Implementing a market design that is based partially or wholly on centralized capacity procurement would require revamping the entire market, and is not a feature that can simply be tacked on to the current design. Such a “belt-and-suspenders” approach would be unduly harmful to Texas businesses and other retail customers. For example, if the capacity necessary to meet a target reserve margin is obtained through a centralized forward capacity market, then the scarcity pricing mechanisms in the current market design would be redundant, and would need be greatly reduced or eliminated.

Further, given that predictability and certainty are among the most important factors in an investment decision, the Commission should avoid embarking on a major market redesign if it is hoping to attract generation *now*. As the Brattle report notes, generation owners “may be reluctant to announce investment plans while the PUCT is actively considering whether to increase price parameters in response to an expected capacity shortfall.”¹⁵ Speculation that the

¹² Brattle Report at 3.

¹³ TIEC would note that this ability exists today and many large industrial customers interrupt their load when the price exceeds the customer’s VOLL.

¹⁴ Brattle Report at 3 (emphasis added).

¹⁵ *Id.* at 54.

Commission might adopt a completely different market would have an even greater chilling effect on generation development.

Instead, the Commission should focus on correcting inefficiencies in the current market energy-only market design, both in this project and in Project No. 40480. Under Option 1, as presented in the Brattle Report, the Commission could make the majority of the recommended changes within a relatively short time period (a few months). The Commission should pursue this course rather than creating additional costs and market uncertainty by attempting to overhaul the existing market design.

C. If the Commission seeks a temporary backstop to a pure energy-only market, a limited reverse capacity auction that causes the least possible market interference would be preferred.

As a preliminary matter, TIEC does not think that the Commission needs to implement a “backstop” mechanism for ensuring a certain reserve margin at this time as TEAM suggests. The changes the Commission and ERCOT have made to date in response to resource adequacy concerns should have a significant impact on prices during the summer of 2012 and beyond. This is supported by ERCOT’s backcast analysis, which shows that a significant increase in Peaker Net Margin (PNM) would have resulted in 2011 from just the market changes that have been made so far—*independent of increasing the SWOC*. If the Commission additionally increases the SWOC to \$4,500, the impact will be much greater. ERCOT’s analysis indicates that combining the changes made to date with an increase in the SWOC (and Power Balance Penalty Curve upper limit) to \$4,500/MWh would have increased Peaker Net Margin in 2011 by approximately \$83,000. This *increase* alone comes close to the *total* PNM requirement for a simple-cycle combustion turbine in the Brattle Report’s low cost of capital case, which was \$90,100.¹⁶ The total \$208,000 Peaker Net Margin that the ERCOT backcast data shows for 2011 based on these changes is 180-230% of what the average PNM would need to be to justify new entry under the Brattle Report assumptions.¹⁷ While ERCOT’s numbers are a backcast of 2011 conditions, they indicate the impact that these changes will have during scarcity conditions, which is when the changes are intended to come into play. The analysis provided in TIEC’s

¹⁶ Brattle Report at 48.

¹⁷ *Id.*

initial comments also demonstrates that, based on the assumptions provided by the Brattle Report, a \$4,500/MWh price cap should be sufficient to justify new entry by peaking units.¹⁸

TIEC recognizes that the Brattle Report concludes that additional market design changes will likely be necessary to equate to a long-term reserve margin of 13.75% under an energy-only market design (Option 1). However, the Brattle Report raises a number of policy issues about how the target reserve margin should be viewed in an energy-only design, and the issues with attempting to achieve a high, mandatory reserve margin while allowing appropriate scarcity pricing signals in the market. TIEC believes these issues should be considered further to determine what the appropriate reliability metric should be, and how that metric should be viewed for policy purposes. In addition, regardless of what the margin is and how it is viewed, the market changes that have already been made should incentivize both additional generation and demand response to help mitigate current concerns. More than 2,000 MW of capacity voluntarily decided to return from mothball status for the summer as a result of these changes, and Calpine has already announced plans for an additional 500 MW of capacity. TIEC is also aware that the experience from last summer has incentivized many loads to develop additional demand response capability, which will become more apparent as the peak season arrives. Further, as the Brattle Report notes, generation companies are likely delaying additional announcements as they wait for the Commission to make a final decision on any market changes. Based on these considerations, TIEC is not convinced that a backstop is necessary at this time.

If the Commission nonetheless seeks to establish some type of backstop mechanism as an additional precaution (similar to Option 3 in the Brattle Report) this mechanism should achieve at least three goals: (1) serve as a temporary, and not long-term, method for providing the minimum capacity needed to meet appropriate reliability objectives; (2) provide the best value for consumers, and (2) minimize market interference. TIEC believes that the option that best meets these requirements would be a reverse capacity auction, along the lines of the process outlined in TEAM's initial comments.¹⁹ TIEC previously supported a similar proposal in Project

¹⁸ TIEC Initial Comments at Exhibit A.

¹⁹ TEAM Comments at 16-17.

No. 24255, *Rulemaking Concerning Planning Reserve Requirements*.²⁰ This approach would involve issuing an RFP, and selecting providers to meet the reserve margin shortfall on a competitive basis so that customers receive the best available value. The generation procured would only be used as a last resort in order to maintain reliability while minimizing market interference. In many ways, TIEC envisions that the compensation and structure of the contracts would be similar to the RMR-like emergency capacity contracts authorized by NPRR 432, except that new resources would be eligible to compete to receive the contracts through a bidding process. The contracts would be limited in time, to avoid long-term reliance on this type of mechanism, and would be priced in a manner that would not interfere with the appropriate market signals. As TEAM notes, this temporary backstop mechanism should not be viewed as a “market failure” given that the current energy-only design already has been modified continuously and already contains certain capacity-based features like ERS and RMR. The Commission should be clear that this type of approach should only be used as a temporary backstop until the package of market features recommended under Option 1 is fully developed.

TIEC recommends that the need for and details of this type of backstop should be considered as part of the discussions in Project No. 40480 and not as a part of this rulemaking.

D. Subsidies, mandates, and other “incentive payments” undermine long term resource adequacy and increase costs for consumers.

At a time when consumers are facing potentially extreme cost increases as a result of efforts to incentivize new generation, the Commission should dismiss requests from market participants seeking to exploit the current resource adequacy situation to obtain subsidies, mandates, or other favorable treatment for their particular products. The Commission should instead focus on developing the most effective and efficient market—not distorting market dynamics by picking winners and losers among specific technologies.

The Solar Energy Industries Association (SEIA), Public Citizen, and SEED seek subsidies and/or mandates for solar generation by arguing that additional solar generation would contribute to resource adequacy or reduce market prices. These requests should be rejected. Altering the true economics of certain resources through mandates and subsidies will create

²⁰ TIEC Comments on Second Strawman (Feb. 27, 2003). The cited comments endorsed a concept originally raised by Occidental in that proceeding. See Project No. 24255, Occidental Power Marketing, L.P. Comments on Second Strawman (Feb. 27, 2003).

significant long-term issues that are not conducive to a sustainable, reliable market. For example, artificially reducing the costs of a particular technology through out-of-market side-payments *also artificially reduces the revenues to that resource's competitors*—either by displacing those competitors or by inappropriately suppressing prices when the subsidized resources are operating. As the Brattle Report aptly notes, the high level of wind penetration in ERCOT has significantly contributed to the current resource adequacy issues by suppressing prices without contributing to resource adequacy.²¹ That penetration was largely the product of federal and state subsidies and mandates that created an uneven playing field for wind generation. Adding more intermittent resources with subsidized or out-of-market pricing will only exacerbate these problems. In particular, if solar technologies are subsidized or mandated in an attempt to reduce portions of the peak, the current market will inevitably need to be re-designed so that even *more* revenues are recovered during the remaining peak periods in order to sustain generation development. The Commission should reject this approach and allow the market to select the best resource mix.

Further, the Commission should give no weight to the SEIA study purporting to demonstrate pricing benefits of solar technologies. The basic conclusion of this self-serving, result-oriented study is that additional solar resources would contribute to resource adequacy and reduce costs. This is a misleading truism that provides no useful information to the Commission, and glosses over critical pieces of information, like the following:

- *Any additional generation* will contribute to resource adequacy and reduce prices by reducing scarcity intervals. There is nothing unique to solar in this regard.
- Any wholesale market price reductions from solar will ultimately have to be made up elsewhere in the market in order to maintain adequate incentives for new entry, so customers will not save any costs in the long run.
- Solar technologies are extremely expensive on a levelized cost basis compared to conventional generation, even if fuel costs may be lower. Therefore, these technologies must rely on subsidies or mandates that offset fixed costs.²²

²¹ Brattle Report at 19-20.

²² See U.S. Energy Information Administration (EIA) Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011, available at: http://205.254.135.7/oiaf/aec/electricity_generation.html.

- Consumers typically pay the costs of the subsidies or mandates, even if those costs are recovered outside the market. Subsidized resources therefore distort market dynamics without reducing overall costs for consumers.
- The market will still require conventional generation and additional ancillary services to back up intermittent solar resources. Consumers will have to pay these costs as well.

Simply put, there is nothing that solar capacity provides that could not be provided by other types of capacity from a resource adequacy perspective, and in fact there are significant drawbacks, operational limitations, and hidden costs as compared with other technologies. These considerations demonstrate why the Commission should not select a certain type of technology to meet capacity needs, but should rely on market forces to select the most cost-effective resources.

Similarly, the Commission should not encourage additional demand response by compensating that demand response in a way that amounts to subsidization or double-payment, or through out-of-market capacity payments or regulated load management programs. In order for demand response to play a long-term role in the energy-only market, it must be integrated into the market so that there are robust, well-developed competitive demand and supply forces. As the Brattle Report explains, “[f]or demand response to contribute to efficient energy price formation, it must be able to help set the energy clearing price at a strike price equal to its willingness-to-pay for energy (or its strike price for being curtailed).”²³ The Brattle Report further notes that ultimately, in an energy-only construct, capacity-based programs like ERS would be eliminated as loads are able to directly participate in market dispatch and set the market clearing price.²⁴ The same holds true for regulated utility load-management programs, and these non-market programs should not be relied upon to facilitate long-term resource adequacy, contrary to the suggestions from Public Citizen and SEED.

The Commission should also reject proposals from Texas Demand Response Coalition and others to effectively pay loads for providing energy to the grid that is not theirs to sell. While the details of this complicated settlement issue are beyond the scope of this rulemaking,²⁵

²³ Brattle Report at 95.

²⁴ *Id.* at 81, 95-98.

²⁵ This is also referred to as deciding whether a load should be paid “full LMP” or “LMP-G” for the quantity of demand response provided. “G” is equivalent to the retail rate the customer would have paid if it had not curtailed. Ignoring this avoided cost in demand response payment will result in over-compensation and creates

the basic principle is that if a load has not already purchased the energy it would have consumed if it had not curtailed (i.e., under a “take-or-pay” agreement), then the load should be compensated as if it first *purchased* that energy, and then *sold* that energy back to the grid. Two of the authors of the Brattle Report, Sam Newell and Kathleen Speers, submitted comments to the FERC supporting this very concept. As those comments recognize, compensating demand response in a way that does not account for the costs a customer would have had to pay to acquire the energy “amounts to re-selling a product the customer has neither purchased nor produced.”²⁶ As Mr. Newell and Ms. Speers note, [t]his would distort incentives and over-compensate DR resources relative to generation resources.”²⁷ The Commission should reject requests to compensate demand response in this manner, as it will create market distortions, uplifts, perverse incentives, and other inefficiencies that are not conducive to long-term resource adequacy. Instead, consistent with the Brattle Report’s recommendations, the Commission should consider market-based measures to increase demand response, like making Loads in SCED a priority and developing an integrated scarcity pricing curve that allows loads to respond based on their individual VOLL. These mechanisms have the potential to contribute to price formation and facilitate long-term resource adequacy, where subsidization, capacity payments, and other non-market mechanisms do not.

IV. CONCLUSION

TIEC respectfully requests that the Commission adopt a maximum \$4,500/MWh SWOC. Since this change was already adopted in the rule in Project No. 37897, it may be that the Commission needs to modify only the Peaker Net Margin and LCAP provisions in the current rulemaking. If the Commission seeks to implement an HCAP increase above the \$4,500 level, that change should take effect no sooner than one year after the decision in this rulemaking, to provide the market with enough time to adjust. TIEC looks forward to discussing longer-term

inefficient market outcomes. For further information, see Hogan, “Demand Response Pricing in Wholesale Markets,” available at http://www.hks.harvard.edu/fs/whogan/Hogan_IRC_DR_051310.pdf. This issue has also been discussed extensively at ERCOT in the context of Loads in SCED, and both WMS and TAC recommended the “LMP-G” approach.

²⁶ *Demand Response Compensation in Organized Wholesale Energy Markets*, FERC Docket No. RM10-17-000, Comments of Samuel Newell, Kathleen Speers, and Philip Q Hanser at 3 (Oct. 4, 2010).

²⁷ *Id.*

market changes that are consistent with the energy-only construct, and the principles discussed above, in the context of Project No. 40480.

Respectfully submitted,

ANDREWS KURTH LLP

A handwritten signature in cursive script, reading "Katherine Coleman", is written over a horizontal line.

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