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PROJECT NO. 40000

COMMISSION PROCEEDING  
TO ENSURE RESOURCE  
ADEQUACY IN TEXAS

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PUBLIC UTILITY COMMISSION  
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COMMENTS OF TEXAS DEMAND RESPONSE COALITION ON  
RESOURCE ADEQUACY POLICY OPTIONS

The Texas Demand Response Coalition<sup>1</sup> is pleased to provide its comments on the policy options described in Table 1 of the Brattle Group Report and its recommendations on the actions that the Commission should take to ensure resource adequacy in ERCOT.

**Overall Recommendations on Resource Adequacy**

The Texas Demand Response Coalition has filed comments in various Commission proceedings on the role that demand response should play in addressing resource adequacy concerns the ERCOT market. We would like to provide a brief summary of these comments as a backdrop to our discussion in today's comments:

- **Importance of Demand Response as Part of Resource Adequacy Options:** In Project 40268, the Coalition highlighted the key role that the Brattle Group Report placed on Demand Response in addressing ERCOT's reliability needs. Based on the Brattle Report's conclusion that "the energy-only market will not dependably support ERCOT's current reliability target without significant additional demand response penetration even with the Commission's proposed increase in the system-wide offer cap to \$9000,"<sup>2</sup> the Coalition indicated that it believed that the Commission's approach to resource adequacy in Project 40268 (raising the price cap to \$9000) was "too narrowly drawn and fails to consider the full range of options available to ensure resource adequacy in the ERCOT market."

<sup>1</sup> The following members of the Demand Response Coalition, which consists of the following leading national demand response service providers and technology companies, are sponsoring these comments: Acclaim Energy Advisors, Autogrid Systems, Consert, Comverge and Energyconnect.

<sup>2</sup> Brattle Group Report at 35.

- **Request for Commission Action on Demand Response:** In Project 40480, the Coalition filed comments suggesting that “the Brattle Group Report demonstrates that the Commission needs to focus more intensively on policy issues related to demand response” and offered two recommendations:
  - The Commission should begin a new project to consider demand response issues or re-activate Project 32853, the PUCT’s demand response docket which has been dormant for many years.
  - The Commission should convene a follow-up workshop to discuss the policy options outlined in the Brattle Group’s report.

As we discussed in our previous comments, the Commission appears to be facing a difficult dilemma in ensuring resource adequacy in the ERCOT market. On one hand, the Brattle Group Report concluded that the existing energy only market “will not dependably support ERCOT’s current reliability target until sufficient demand response penetration is achieved.” On the other hand, the Brattle Group Report indicated that ERCOT market appears to be facing a reserve margin shortfall as early as 2014 that cannot be resolved even if the Commission were to immediately implement changes to the existing market design.

Our comments today build on our prior suggestions for resolving this dilemma and show how the Commission can address ERCOT’s resource adequacy challenges by proactively using demand response as a tool for solving the market’s short term and long term resource adequacy issues. Accordingly, we offer the following three recommendations:

- Supplement ERCOT’s Energy Only Market Design with New Tools to Ensure Long Term Resource Adequacy
- Take Near Term Actions to Address ERCOT’s 2014 Reserve Margin Gap
- Open a Demand Response Project to Provide Strategic Direction for ERCOT’s Demand Response Activities

We believe that, by following such a course of action, the Commission would address ERCOT’s pressing short term resource needs as well as ensuring long term resource adequacy. As

the Brattle Report suggests, ERCOT has significant demand response potential that could serve as a “bridge” by expanding existing demand response programs as a means of meeting the near-term shortfall. In addition, we believe that demand response can play a significant role in the ERCOT market as part of whatever long term market design changes the Commission ultimately adopts.

- **Supplement ERCOT’s Energy Only Market Design with New Tools to Ensure Long Term Resource Adequacy**

The discussion at the August 17<sup>th</sup> open meeting indicates that the Commission is interested in exploring two questions: (1) whether to move away from a market-based level of reliability and implement a mandatory reserve margin target determined by the PUCT and (2) determining what market design changes would be required to achieve a mandatory reserve margin target.

We would like to make two points in response to these issues.

First, in determining what market design changes to adopt, we believe that the Commission should consider the following touchstone: the Commission should ensure that demand response is included as a necessary component of any resource adequacy policy option. In this regard, we suggest the following principles that the Commission should recognize as it considers market design changes:

- **Capacity payments:** Market designs based on capacity payments are more conducive to demand response than markets designed with only energy payments as an incentive. Customers are unlikely to be willing to continually remain ready to respond and therefore are less willing to participate in markets with only energy incentive payments (even if the potential for a payout is very high) whereas markets

with capacity payments provide a stable market-based “readiness” revenue stream which provides a clear incentive for participation.<sup>3</sup>

- **Price Transparency:** We believe that visibility of prices determined through the resource adequacy mechanism will be crucial. Price transparency will help to provide a necessary price signal regarding the value of capacity and determine whether the market requires additional resources. Achieving price transparency may require that ERCOT manage a market for reliability obligations in the same way that it manages the ancillary services market today.
- **Resource Equivalency:** There should be a “level playing field” that permits all types of resources to participate in the market. It is important to note, however, that resource equivalency does not mean that all resources must slavishly follow the same exact set of rules. Loads should not be forced to duplicate the capabilities of generation, but rather should have equivalent market rules that recognize the limitations on the ability of customers to provide demand response and are designed to encourage, rather than limit, their participation.

Second, in terms of determining which market design to adopt<sup>4</sup>, we believe that if the Commission decides to implement a mandatory reserve margin target, the Commission will effectively be moving toward either a backstop procurement mechanism (Option #3), a mandatory

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<sup>3</sup> Statistics on demand response participation in the PJM market dramatically illustrate this point. While PJM has over 14,000 MW of demand response participating in its forward capacity market, currently only 16 MW participate in Economic DR, with only 2-4 sites participating each month. Convino, et. al., Demand Response Participation in Organized Electricity Markets: A PJM Case Study in Sioshani, Smart Grid: Integrating Renewable, Distributed, & Efficient Energy (2012).

<sup>4</sup> For the purposes of this discussion, we are referring to the five options described in Table 1 of the Brattle Report. These options are a “pure” energy only market (Option #1), an energy only market with “adders” (Option #2); a backstop procurement mechanism (Option #3); a LSE resource adequacy requirement (Option #4) and a centralized capacity procurement mechanism (Option #5).

resource adequacy requirement for LSEs (Option #4) or a centralized capacity market (Option #5).

We believe that neither Options #1 nor #2 are viable if the Commission implements a mandatory reserve margin target. It is clear that the energy only market described in Option # 1 is more an aspiration than a true market design option since ERCOT today is not a “pure” energy only market. As Brattle notes, the PUCT has been pursuing market rule changes that increase prices to support additional investments<sup>5</sup> and has been developing backstop procurement policies by reactivating mothballed capacity and procuring emergency demand resources through the ERS program.<sup>6</sup>

As the Brattle Report points out, Option 2 is not a viable option because it has the disadvantages of not providing a “reliable way to meet the target” and requires “administratively determined adders,” which distort the market. From our perspective, Option 2 also fails to meet the key demand response principles discussed above since it will perpetuate the status quo in regard to the limited role that demand response plays in the ERCOT market and it is not likely to result in a significant amount of new demand response even if the Commission pursues additional market design changes since the underlying market design will remain largely unchanged.

Accordingly, we believe that the best way of implementing a mandatory reserve margin target would be to move beyond Options #1 and #2 and implement a backstop procurement mechanism (Option #3) or a mandatory resource adequacy obligation on load serving entities (Option #4) particularly if concerns regarding a centralized capacity market (Option #5) continue to be expressed by the Commission and by several stakeholder groups.

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<sup>5</sup> Brattle Report at 105.

<sup>6</sup> Brattle Report at 108.

In regard to Option #4, several types of mandatory resource adequacy mechanisms have been proposed by a number of scholars and industry experts.<sup>7</sup> One such model, which was developed with the ERCOT energy only market design in mind, has been proposed by the PUCT staff's former consultant, Dr. Shmuel Oren.<sup>8</sup> Under Dr. Oren's model, the reliability obligation requirement would be implemented in a manner consistent with the ERCOT market's energy only market and would supplement, but not replace, ERCOT's current energy only market design. Indeed, Dr. Oren considers that this model as a "pathway" to the "promised land" of energy only markets. We believe that Dr. Oren's model deserves serious consideration by the Commission.

In summary, we believe that if the Commission desires a mandatory reserve margin target it should focus on market designs that provide a level playing field for demand response and that Options #3 and #4 are the most promising candidates.

#### **B. Commission Should Take Actions to Address ERCOT's 2014 Reserve Margin Gap<sup>9</sup>**

While a mandatory reserve margin will ensure that the ERCOT market achieves sufficient levels of resource adequacy over the long term, it does not address ERCOT's short term reserve margin issues. In fact, the Brattle Report indicates that 2014 is approaching "too quickly to add some types of new capacity, even if market conditions would support such investments."<sup>10</sup>

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<sup>7</sup> Carlos Vasquez, Michel Rivier and Ignacio Perez-Arriaga, *A Market Approach to Long Term Security of Supply*, 17 IEEE TRANSACTIONS ON POWER SYSTEMS 349 (2002); Hung-Po Chao and Robert Wilson, *Resource Adequacy and Market Power Mitigation via Option Contracts*, EPRI (2004); Miles Bidwell, *Reliability Options: A Market-Oriented Approach to Long-Term Adequacy*, 18 ELECTRICITY JOURNAL 11 (2005); Shmuel Oren, *Generation Adequacy via Call Options Obligations: Safe Passage to the Promised Land*, 18 ELECTRICITY JOURNAL 28 (2005); Peter Cramton and Steven Stoft, *Forward Reliability Markets: Less Risks, Less Market Power, More Efficiency*, 16 UTILITIES POLICY 194 (2008).

<sup>8</sup> Shmuel Oren, "Generation Adequacy via Call Options Obligations: Safe Passage to the Promised Land," 18 Electricity Journal 28 (2005).

<sup>9</sup> While discussion in this Section builds on our comments filed in Project 40268 our recommendations in those comments which should be referenced for additional suggestions on short term reliability options.

<sup>10</sup> Brattle Report, p. 6.

To put this gap into concrete numbers, ERCOT's summer 2012 CDR shows that, by 2014, ERCOT will have approximately 6,687 MW of generation in excess of peak demand, which equates to a 9.8% reserve margin. Based on these projections, ERCOT would need an additional 2,700 MW of capacity by 2014 in order to achieve a 13.75% reserve margin.<sup>11</sup>

This resource gap presents the Commission with a difficult dilemma since any market design changes cannot be implemented rapidly enough to significantly impact this resource adequacy shortfall.

To address this challenge, the Commission should implement an aggressive demand response program to cover these expected 2014 short-falls in reserve margins. Demand response compensated through capacity payments can solve these short term resource adequacy problems since demand response does not have extended implementation periods, and is relatively 'quick to market' compared to generation.

We propose that the Commission implement a short term "stopgap" demand response program that builds on the existing ERS and utility load management programs. We agree with the Brattle Report's suggestion that the Commission could employ demand response as a short term reliability solution:

If the 2014 planning reserve margin outlook fails to improve sufficiently to meet a minimum acceptable level of reliability before new generation can be added, the PUCT and ERCOT could consider soliciting additional Emergency Response Service resources as a short-term solution.<sup>12</sup>

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<sup>11</sup> Contrary to discussions at the last open meeting, recent plant announcements do not mean that ERCOT will meet its reserve margin target in 2014. The total of the NRG and Panda announcements, assuming that both projects come online by 2014, will reduce the gap from 2,700 MW to approximately 2,000 MW.

<sup>12</sup> Brattle Report at 7. We also agree with the Brattle Report's conclusion that "... such a backstop mechanism should be implemented with great restraint to avoid introducing a perpetual dependence on backstops or displacing market-based resources that would otherwise be developed." In this section, we discuss how the Commission should structure such a backstop mechanism.

However, the PUCT would need to take significant additional steps to ensure that these programs meet their goals by requiring ERCOT and the utilities to make program changes that will encourage customers to enroll in these programs in sufficient numbers to close the resource gap. We describe these changes below.

**Emergency Response Service (ERS):** In spite of the Commission's efforts to improve the ERS program in Project 39948, the ERS program remains chronically undersubscribed due to continuing flaws in the program design. While ERCOT indicated to the Commission that the ERS program would provide an additional 130-200 MW<sup>13</sup> for this summer, ERCOT results for the summer ERS procurement actually show only a modest increase (23-46 MW) in two time periods but a larger decrease in the two remaining time periods (63-70 MW).<sup>14</sup>

In order to use ERS as a "stopgap" measure to maintain a 13.75 percent reserve margin target, the PUCT should require that ERCOT take more aggressive steps to address the persistent problems in the ERS program design and require that ERCOT establish a goal to fill the ERS program's 1000 MW target capacity by 2014. In order to achieve this goal, the Commission may want to consider requiring ERCOT to implement the following actions:

- Implementing all program changes from the ERS pilot program into the core ERS program including: using a market clearing pricing mechanism, and capping resource obligations at 8 hours;
- Fully instituting 30 minute and/or one hour ERS products
- Acquiring additional DR on summer peaks; including temperature-sensitive loads
- Revising ERS availability and performance rules to ensure that they are not unnecessarily complex or punitive;

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<sup>13</sup> See Project 37897, ERCOT's January 18, 2012 Resource Adequacy Status Report (in which ERCOT indicates a target of between 130-200 additional MW from the EILS program).

<sup>14</sup> See Results of the ERS procurement for the June – September 2012 Standard Contract Term, available at <http://www.ercot.com/services/programs/load/eils/>

- Paying energy payments when deployed,
- Applying to the PUCT to raise the \$50 million price cap if required to meet the 1000 MW target; and
- Changing to monthly kW nominations or allow bids to be adjusted during the program period.

The PUCT should also set an interim target of 750 MW by the summer of 2013. If the ERS program does not reach 750 MW by summer 2013, the PUCT should require ERCOT management to report on additional steps that it will take to ensure that 1000 MW are available by the summer of 2014.

**Load Management Programs:** The PUCT should require that the ERCOT utilities to acquire a total of 1000 MW in the utility load management programs by 2014. Unlike the ERS program, the utility load management programs are generally structured appropriately to attract new demand response. Nevertheless, the Commission should take the following actions:

- Load management program rules should be revised to allow residential customer participation
- Utilities should be given the flexibility to increase standard offer incentive levels to meet the 1,000 MW target

In summary, the PUCT should require sufficient changes by ERCOT and the ERCOT utilities to demand response programs to ensure that these programs meet ERCOT's short term reliability needs.

**C. Open a Demand Response Project to Provide Strategic Direction for ERCOT's Demand Response activities**

As a final recommendation, the Coalition recommends that the Commission open a demand response project at the PUCT to provide strategic direction to ERCOT and the ERCOT

stakeholders on the role that the Commission envisions for demand response in the ERCOT market.

In our opinion, ERCOT's current demand response initiatives are unlikely to lead to the 3.6-5.6 GW that the Brattle Group suggests is required to provide an adequate reserve margin under the energy only market design.<sup>15</sup> We believe that ERCOT's management recognizes the importance of increasing DR in the market, but current DR activities at ERCOT are misdirected by being too focused on developing a model for participation of loads in the real time energy market, even though that the Brattle Group Report indicated that it is unlikely that this project would result in significant load participation in the real time market.<sup>16</sup>

In addition, based on our extensive experience to date with demand response projects in the ERCOT stakeholder process, we are concerned that ERCOT's stakeholder process will continue to stifle the development of demand response without significant intervention, policy oversight and direction from the PUCT.

Finally, we are concerned that ERCOT's activities in regard to demand response are too focused on fitting a "round peg into a square hole" by force fitting demand response into products designed for generation rather than developing demand response products recognize the unique advantages and limitations of load and allowing customers to participate in products that provide value to the ERCOT market.

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<sup>15</sup> Brattle Group Report at 70.

<sup>16</sup> In regard to loads in SCED, the Brattle Group report stated that:

If all of these [generation] requirements were imposed on DR resources-to qualify for participation in SCED, many end users may not bother to participate after considering the setup costs and any consequences for not performing when dispatched. They may prefer to respond voluntarily to prices, even if participating in SCED would allow them to better optimize their operations against prices. Brattle Group Report at 96.

We suggest that the Commission would open a project to create demand response rules that direct ERCOT to take sufficient actions to ensure that all classes of customers are provided an opportunity to participate in the ERCOT market as demand response resources.

**Conclusion**

The Texas Demand Response Coalition looks forward to working with the Commission, the Commission staff and ERCOT staff in making changes required to unlock the true potential of load resources to contribute to reliability in the ERCOT market.

Respectfully Submitted,

**Texas Demand Response Coalition**

A handwritten signature in black ink, appearing to read "Brett A. Perlman", with a horizontal line extending to the right.

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