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PROJECT NO. 37897

February 10, 2012

**PUC PROCEEDING RELATED  
TO RESOURCE AND RESERVE  
ADEQUACY AND SCARCITY  
PRICING**

**§ PUBLIC UTILITY COMMISSION  
OF TEXAS**

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**Comments of BP Energy Company in Response to Questions Asked by  
the Public Utility Commission of Texas**

BP Energy Company (BPEC) appreciates the opportunity to provide comments in this Public Utility Commission of Texas (PUCT) proceeding. BPEC is a wholesale natural gas and power marketer and trader in many U.S. markets. BPEC's affiliate, BP Wind Energy North America Inc., through subsidiaries, has installed and operates more than 500 MWs of wind resources in ERCOT.

The PUCT has asked for stakeholder comment on seven questions. Question 1 asks if the ERCOT energy-only market design needs further changes at this time. Questions 2-4 focus on key elements of the energy-only resource adequacy mechanism in Substantive Rule 25.505. BPEC believes that the energy-only framework in Substantive Rule 25.505 continues to work better than any alternatives seen across the United States. However, as expressed in our comments below, BPEC believes that the adoption of new technologies in the ERCOT market require significant changes to the key parameters in Substantive Rule 25.505 now rather than later.

Questions 5-7 raise questions about the market power mitigation regime embedded in Substantive Rule 25.504. BPEC believes that the PUCT found a "sweet spot" in market power mitigation in the original rulemaking. Substantive Rule 25.504 has proven to work seamlessly with the commercial market and to wear well politically

with the Texas Legislature. As a result, Substantive Rule 25.504 should not be changed at this time. BPEC provides some brief, general comments in response to these questions below.

1. *How have the recent changes to the protocols that affect reliability deployments of ancillary services affected your views on your proposed changes to these rules?*
2. *Should the Commission consider an increase in the System Wide Offer Cap (SWOC)? If so, on what schedule should any increase be implemented? What would be the likely impact on contracting decisions by existing and prospective generation owners, retail electric providers, electric cooperatives, municipally-owned utilities and retail customers? What would be the impacts on forward price signals and would those impacts be conducive to the development of new generation capacity in the ERCOT market?*
3. *Should the Commission raise or eliminate the Low System Offer Cap (LCAP) and its triggering mechanism? If so, on what schedule should the change be implemented? What would be the likely impact on contracting decisions by existing and prospective generation owners, retail electric providers, electric cooperatives, municipally owned utilities and retail customers? What would be the impacts on forward price signals and would those impacts be conducive to the development of new generation capacity in the ERCOT market?*
4. *Does the Scarcity Pricing Mechanism that uses the Peaker Net Margin to monitor the adequacy of price signals to bring new generation to the ERCOT market still have value? Are other changes needed in Substantive Rule 25.505 (g)(6)(E) to*

*give better data about whether the market design allows for adequate revenues to cover the cost for new entry?*

## **The Broader Context of Scarcity Pricing**

In its advocacy in other electricity markets across the United States, BPEC points to the ERCOT market as the best example of sustainable design for wholesale and retail markets. The two best features of this overall market design are:

- consumers are free to choose from the widest range of electricity offerings that cater to their diverse needs and preferences, and
- this electricity market provides the responsiveness, efficiency, flexibility and transparency long associated with other commodities markets, but never with regulated environments.

The PUCT and the Texas Legislature should be commended for allowing market participants to procure energy resources solely through the decentralized commercial market. Such strong belief in the superiority of market forces should be the rule and not just an exception. The U.S. electric utility industry has spent decades relying on centralized resource planning and decision-making involving explicit guarantees, direction, or intervention from state regulators in procuring resources. The many problems associated with this approach were among the motivations for restructuring much of the nation's electricity industry 15 years ago. Only by continuing to put generation investment risk solely on generation investors and price risk solely on the

market – a division of risk seen in more traditional commodities for centuries – will Texas consumers reap the greatest benefits from a sustainable and competitive marketplace.

Given the shortage conditions felt in ERCOT in February and August of last year, the PUCT is correct in reviewing the details of the pricing mechanisms of the ERCOT market at this time. The electricity industry has changed in significant ways since the PUCT approved its Substantive Rule 25.505 in 2006. As a result, the system-wide offer cap (SWOC) cap of \$3,000 per MWh is quite likely to be too low to sufficiently motivate resource adequacy and reliability in the face of the rapid deployment of 21st Century technologies supplementing the existing resource base, such as intermittent renewables, quick-start gas-fired generation, and widespread, passive load response that Smart Grid will enable.

The decentralized nature of the procurement, commitment, and sometimes even use of these resources in ERCOT, requires that the PUCT use scarcity pricing as a means to ensure load-serving entities have an overwhelming financial incentive to bring sufficient resources to meet the real-time needs of their customers.<sup>1</sup> Only by focusing on an appropriate financial incentive for load-serving entities during shortage conditions will align a truly competitive (and responsive) market with the reliability needs of the grid operator.<sup>2</sup>

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<sup>1</sup> Load-serving entities are defined here as competitive retailers, municipally-owned utilities, and electric cooperatives.

<sup>2</sup> For a discussion on the impact of decentralization on unit commitment, see Public Utility Commission of Texas, Project No. 31600, *Transition to an ERCOT Nodal Market Design*, “Comments of BP Energy Company on the Update Cost-Benefit Analysis of the ERCOT Nodal Market Design,” January 9, 2009 *available at*

In the past six months, the PUCT has ordered many needed changes to improve the ERCOT market design. In order to bolster investor confidence and provide market continuity, the PUCT should finish the task and make changes to the SWOC now rather than later. By sending a clear signal to the market that scarcity pricing will rise to the level need to ensure the successful integration of 21st Century technologies, the PUCT will be instilling the confidence that the market will be durably sustainable.

The alternative, making only incremental changes over a long period of time, delays investor confidence and undermines market continuity. The combination of a steady stream of regulatory interventions and half-hearted measures has led to the tortured process that is market evolution in various other regional transmission organizations (RTOs) and independent system operators (ISOs) in the Eastern and Western Interconnects. By making the necessary changes to Substantive Rules 25.504 and 25.505 now, the ERCOT market can continue to thrive and provide consumers with the widest ranges of services as the Texas Legislature intended.

### **The PUCT Needs to “Double Up” on Scarcity Pricing**

Generation reserve margins for energy-only markets such as Alberta and ERCOT should be expected to hover near minimum levels required for reliability because of the

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For a discussion on the impact of decentralization on real-time dispatch, see Public Utility Commission of Texas, Project No. 37897, *PUC Proceeding Related To Resource And Reserve Adequacy And Scarcity Pricing*, “Comments of BP Energy Company in Response to Questions Asked by the Public Utility Commission of Texas,” June 24, 2011.

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highly efficient and competitive nature of those markets.<sup>3</sup> To make the ERCOT resource adequacy mechanism more robust in the short run and sustainable in the long run, BPEC suggests a “Double Up” strategy in amending Substantive Rule 25.505. The PUCT should consider raising the three key parameters in question to the following targets:

- System Wide Offer Cap (SWOC) = \$6,000 per MWh
- Low offer cap (LCAP) = \$1,000 per MWh
- Peaker Net Margin (PNM) = \$350,000 per MW

Though BPEC believes that the LCAP and PNM should be raised to the proposed levels no later than January 1, 2013, it also recommends the following phase-in of the SWOC to avoid unnecessary disruption of commercial contracts:

- \$4,000 per MWh on May 1, 2013
- \$5,000 per MWh on May 1, 2014
- \$6,000 per MWh on May 1, 2015

The PUCT should re-affirm and raise, rather than abolish, the PNM and the LCAP. This adjustment to the PNM and the LCAP reduces regulatory risk by having the

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<sup>3</sup> The concern about generation margins was one of the reasons why demand-response was deemed important to the success of the energy-only market in ERCOT. See PUCT Project No. 31972, *Rulemaking on Wholesale Electric Market Power and Resource Adequacy in the ERCOT Power Region*, Final Order, page 46.  
[http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/filings/pgSearch\\_Results.asp?TXT\\_CNTR\\_NO=31972&TXT\\_ITEM\\_NO=78?](http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/filings/pgSearch_Results.asp?TXT_CNTR_NO=31972&TXT_ITEM_NO=78?)

PUCT positively state under what circumstances and when the offer cap will change.

The market will

- recognize the signal of commitment to sustainable markets, and
- benefit by having this feature wrapped in the protections of administrative law.

The benefits of BPEC's "Double Up" proposal are substantial and readily felt in the commercial bilateral market, as the proposal will

- focus value on super-peak hours where reliability is most at risk by improving the economics of the mix of resources well-suited to optimize economic dispatch,
- help the market meet summer peak demand, and
- increase the liquidity duration of the forward curve as all parties will have confidence and focus to do so.

A number of precedents are consistent with BPEC's "Double Up" approach:

- The historical record since 2006 has shown that the SWOC levels then-proposed by City Public Service of San Antonio and the Alliance of Retail Marketers in the original rulemaking (\$5,000 per MWh to \$7,500 per

MWh); appear to be closer than what is needed for the long-term health of the market than the current offer cap.<sup>4</sup>

- The recommendation of the ERCOT Independent Market Monitor (ERCOT IMM) last summer to raise the top of the Power Balance Penalty Curve to \$6,000 per MWh supports this approach.<sup>5</sup>
- Within five years after the opening of the national electricity market in Australia, Australian energy regulators approved a strong mid-course correction to enhance the sustainability of the market, raising the system-wide offer cap from \$A5,000 per MWh to \$A10,000 per MWh, recognizing the societal value of lost load (VOLL).<sup>6</sup>

### **BPEC's Suggestion Will Enhance Sustainability**

BPEC believes that its "Double Up" approach addresses the challenge of decentralized procurement of energy resources. The increasing number of potential customers who could actively manage their energy use within a given day could rapidly expand during the next decade, enabled by the ongoing deployment of smart meters. As

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<sup>4</sup> PUCT Project No. 31972, *Rulemaking on Wholesale Electric Market Power and Resource Adequacy in the ERCOT Power Region*, Final Order, pages 62-65.  
[http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/filings/pgSearch\\_Results.asp?TXT\\_CNTR\\_NO=31972&TXT\\_ITEM\\_NO=78](http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/filings/pgSearch_Results.asp?TXT_CNTR_NO=31972&TXT_ITEM_NO=78)

<sup>5</sup> *Workshop on Factors Affecting Pricing during Reliability Deployments by ERCOT*, Presentation by ERCOT IMM, August 22, 2011,  
[http://www.puc.state.tx.us/industry/projects/electric/37897/082211%5CPotomac\\_082211.pdf](http://www.puc.state.tx.us/industry/projects/electric/37897/082211%5CPotomac_082211.pdf)

<sup>6</sup> The Australian National Electricity Market was opened in 1998, and the market's offer cap was raised in April 2002. See Australian Competition and Consumer Commission, "Analysis of Electricity Capacity Market," (April 2002), page 20.  
[http://www.aer.gov.au/content/item.phtml?itemId=661483&nodeId=2cfd30156e494e55d065a1ffc1343f7&fn=Analysis%20of%20electricity%20capacity%20market%20\(April%202002\).pdf](http://www.aer.gov.au/content/item.phtml?itemId=661483&nodeId=2cfd30156e494e55d065a1ffc1343f7&fn=Analysis%20of%20electricity%20capacity%20market%20(April%202002).pdf)

a result, the reactions of small commercial and residential consumers could cause a potentially large increase in passive load response outside traditional security constrained economic dispatch.<sup>7</sup> Strong, predictable and clear forward price signals, not just dispatch orders from ERCOT, will be needed to keep supply and demand in balance in real-time in the future.

BPEC's "Double Up" approach also adjusts the level of scarcity pricing to address the unexpectedly rapid deployment of intermittent renewables in ERCOT that has occurred since the adoption of Substantive Rule 25.505. The large increase in the installed wind resources has impacted the procurement, commitment, dispatch and pricing patterns in the ERCOT market.

Another way of seeing this issue is that the slope of the net load duration curve has been increasing, associated with the higher volatility in output from intermittent renewables.<sup>8</sup> When the wind doesn't blow and the sun doesn't shine, there needs to be financial incentives for

- gas-fired generators to be ready to produce more energy, and
- load-serving entities to encourage their customers to willingly defer some of their electricity use.

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<sup>7</sup> Project No. 37897, *PUC Proceeding Related To Resource And Reserve Adequacy And Scarcity Pricing*, "Comments of BP Energy Company in Response to Questions Asked by the Public Utility Commission of Texas," June 24, 2011, pages 5-7.  
[http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/filings/pgSearch\\_Results.asp?TXT\\_CNTR\\_NO=37897&TXT\\_ITEM\\_NO=26](http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/filings/pgSearch_Results.asp?TXT_CNTR_NO=37897&TXT_ITEM_NO=26)

<sup>8</sup> Net load is defined as load minus output of wind farms and solar facilities at any given moment. The net load duration curve is the level of demand each hour in a year met by generation other than intermittent renewables.

Without adjustments to the SWOC, ERCOT operators may be required to meet such shortfalls by increasing their use of out-of-market reliability unit commitments.

The ERCOT IMM has noted this growing issue recently:

“Thus, although the peak net load and reserve margin requirements are projected to continue to increase and create an increasing need for non-wind capacity to meet net load and reliability requirements, the non-wind fleet is expected to operate for fewer hours as wind penetration continues to increase. This outlook further reinforces the importance of efficient energy pricing during peak demand conditions and other times of system stress, particularly within the context of the ERCOT energy-only market design.”<sup>9</sup>

The PUCT should be proactive in addressing the challenge the ERCOT IMM has highlighted, and adopt BPEC’s recommendations in a rulemaking later this year.

5. *Should the Commission consider an increase in the amount of generation owned by a single generation entity in order for the entity to qualify for the exemption listed in Substantive Rule 25.504(c)? Should the Commission consider excluding new generation installed by an entity after January 1, 2012 in the calculation prescribed by that subsection?*
6. *Would the creation of a “safe harbor” with respect to a level of pricing that would not constitute an offer “substantially above... marginal cost” according to*

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<sup>9</sup> Potomac Economics, *ERCOT 2010 State of the Market Report*, August 2011, pp. 28-30.

*25.504 (d) provide benefits to the marketplace? If so, what should be the form and level of that "safe harbor"?*

- 7. Are there other changes to 25.504 that would be conducive to ensuring that the market effectively signals and is conducive to the development of new generation capacity in the ERCOT market?*

The cutoff for the exemption listed in Substantive Rule 25.504(c) was originally based on the empirical observation by PUCT staff that high offers from market participants who own less than 5 percent of installed capacity would produce scarcity pricing at times consistent with good market outcomes and real-time reliability of the grid. The PUCT developed the threshold under the zonal model, which had lighter day-to-day mitigation of market offers than the nodal model. Since the implementation of the nodal model, mitigation of offers from generators has changed.

In addition, at the insistence of the ERCOT IMM, ERCOT adopted a Power Balance Penalty Curve, which provides the market with the confidence that whenever reliability is weakened, scarcity pricing occurs. The experience of the past year has shown that the ERCOT IMM was right. The real-time market no longer relies on the decisions of an individual market participant to make an offer consistent with scarcity pricing.

While the mix of the generation fleet and the market design have changed in the past five years, political risk in this market has not. The thresholds in Substantive Rule 25.504 are a matter of fairness as well as efficiency. Proposed legislation from the past three sessions of the Texas Legislature has made clear the appearance of caprice or

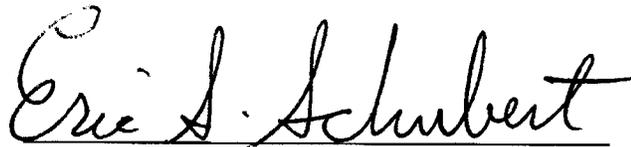
unfairness in market outcomes is a serious concern to the Texas Legislature, as well as the generation investment community. The PUCT should keep this fact in mind in its deliberation on Section 25.504.

Given all these changes and challenges, BPEC believes the ERCOT IMM is in the best position to inform the PUCT where the line between good market outcomes and gaming lies for the foreseeable future. The PUCT should give great weight to his recommendations in making any changes to Substantive Rule 25.504.

## **Conclusion**

BPEC appreciates the opportunity to comment on the appropriate level of scarcity pricing in ERCOT.

Respectfully Submitted,

A handwritten signature in black ink that reads "Eric S. Schubert". The signature is written in a cursive style and is positioned above a horizontal line.

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