



Control Number: 40000



Item Number: 421

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PROJECT NO. 40000

COMMISSION PROCEEDING TO §
ENSURE RESOURCE ADEQUACY IN §
ERCOT §

PUBLIC UTILITY COMMISSION
OF TEXAS

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2013 MAY 21 PM 2:24
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NRG ENERGY COMMENTS ON 'INTERIM SOLUTION B+ TO IMPROVE REAL-TIME SCARCITY PRICING'

NRG Energy, Inc. ("NRG") hereby files these comments to continue the discussion on resource adequacy and in response to questions by the PUCT Staff ("Staff") regarding a white paper by Prof. William Hogan and ERCOT staff, entitled "Back Cast of Interim Solution B+ to Improve Real-Time Scarcity Pricing," filed by ERCOT staff in Project No. 40000 on March 22, 2013.

I. Discussion on Resource Adequacy and Interim Solution B+

Ensuring resource adequacy in the ERCOT region is a primary concern of this Commission and is the ultimate objective of Project No. 40000. NRG supports efforts to improve the efficiency of the current energy-only market design, but urges the Commission to remain focused on solutions that address resource adequacy. Interim Solution B+ is intended to approximate the implementation of co-optimization of energy and reserves in the real-time market. Neither Interim Solution B+ nor real-time co-optimization directly address the issues underlying the resource adequacy challenges in ERCOT.

Resource adequacy requires the preservation and addition of supply when reserve margins fall below acceptable levels. The ability to economically operate and construct generation capacity in ERCOT is dependent on the long-term bilateral market, which is informed by the energy-only market administered by ERCOT. Reforms to the energy-only market such as real-time co-optimization or Interim Solution B+ will not solve the resource adequacy challenges

because these challenges lie in the long-term bilateral market. A combination of factors work together to disrupt long-term hedge execution and forward price valuation in the long-term bilateral market, which undermines the expectation that price signals from the energy-only market will reliably support economic operation of generation capacity and incentivize investment in new generation capacity when needed.

Factors contributing to the resource adequacy challenge in ERCOT

- High offer price caps and power balance penalty prices are necessary to produce effective scarcity prices and create short-term incentives in the energy-only market. However, high offer price caps and power balance penalty prices also increase volatility. The possibility of volatile forward pricing widens the range of expected long-term pricing outcomes. The wider the range of expected pricing outcomes the less likely buyers and sellers will agree on forward price valuation which significantly decreases liquidity in the long-term bilateral market.
- The success of retail competition in ERCOT results in relatively short-duration products (mostly less than two years). This creates an absence of natural buyers in the long-term bilateral market needed to support long-term market fundamentals and the corresponding forward price valuations required to enable investment in generation assets with a multi-decade life.¹
- The absence of natural long-term buyers has historically been filled by financial institutions and energy companies willing to warehouse risk for many years in the future, providing economic support for time periods beyond the duration of retail contracts. However, increased volatility decreases the ability to warehouse this long-term risk.

¹ Municipal Utilities and Co-operatives do purchase long-term power to fulfill obligations of their franchise load, not for the needs of the overall market.

- Poor liquidity and decreased participation in the long-term bilateral market disrupts forward price valuation and hedge execution.
- **The inability to execute hedges at forward prices reflective of long-term supply and demand removes the economic support for operation of existing generation capacity and interferes with the process to obtain financing for the construction of new generation capacity.**

Professor Hogan discussed the importance of hedging ability in the energy-only market when describing “Energy-Only Market Defects” which could jeopardize resource adequacy under this market structure.²

To the extent that forward contracts would be needed by generators to maintain existing facilities or arrange the financing for new investment, insufficient demand for forward contracts could work against the intended incentives for market based resource investments. Hence, inadequate demand for forward contracts could translate into a resource adequacy problem relative to the level of investment that would occur if the transaction costs could be eliminated.

NRG continues to believe that the Commission should adopt a mandatory reserve margin to preserve the reliability of the bulk power system, which is critically important to support Texas’ growing economy. A centralized forward capacity market provides a market structure which best achieves a mandatory reserve margin by addressing the long-term deficiencies of ERCOT’s energy-only market described above.

² ON AN “ENERGY ONLY” ELECTRICITY MARKET DESIGN FOR RESOURCE ADEQUACY, William W. Hogan, Center for Business and Government, John F. Kennedy School of Government, Harvard University, Sept 2005.

II. Response to Questions

Staff requested comments in response to questions regarding a white paper by Prof. William Hogan and ERCOT staff, entitled "Back Cast of Interim Solution B+ to Improve Real-Time Scarcity Pricing." NRG offers the following responses to those questions:

- 1) *How long will it take and what is the cost to implement Solution B+?*

ERCOT staff prepared an impact analysis which outlines the implementation timeline and cost for Interim Solution B+.³

- 2) *If Solution B+ is implemented, will the benefits of implementing full real-time co-optimization exceed the incremental costs of such implementation?*

The incremental cost and benefit of implementing full real-time co-optimization cannot be evaluated until the cost of implementing such solution is known. NRG recommends that the Commission direct ERCOT staff to address this question.

- 3) *If Solution B+ is implemented, are bidding floors for ancillary services still needed to avoid price reversal? If so, should minimum bids for ancillary services be set according to a curve where minimum bids increase as reserve capacity is depleted, or should the minimum bid be set at a discrete level?;*

If Solution B+ is implemented, it should be designed to not degrade resource adequacy and to not introduce price reversal issues.

- 4) *With regard to minimum bids for ancillary services, should different ancillary services (such as on-line non-spin and off-line non-spin) be treated differently?*

³ ERCOT Impact Analysis Estimating Cost and Timeline for Implementation of ORDC B+ Proposal. File Number 406 in this Project.

NRG recognizes that different ancillary services provide varying quality of reliability services to the grid and therefore justify different treatment.

III. Conclusion

NRG appreciates the opportunity to provide comments in this important proceeding. A market structure that maintains resource adequacy is vital to the future of Texas. NRG supports efforts to improve the efficiency of the energy-only market, but such efforts should not be expected to resolve resource adequacy issues. A mandatory reserve margin with a centralized forward capacity market provides the most effective market structure to maintain resource adequacy.

Respectfully submitted,



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