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February 23, 2012

Chairman Donna L. Nelson
Commissioner Kenneth W. Anderson
Commissioner Rolando Pablos
Public Utility Commission of Texas
Austin, Texas 78711

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Re: Project No. 37897

Dear Commissioners:

Please find attached the comments from the Independent Market Monitor that I provided separately to each of your offices on February 20, 2012.

Sincerely,

A handwritten signature in cursive script that reads "Daniel L. Jones".

Daniel L. Jones
Director, IMM

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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 magnitude of the SWOC should be increased to better reflect the value of lost load. The work associated with the soon to be initiated ERCOT RFP related to resource adequacy should provide more insight into the appropriate values by mid-April, 2012. The PNM threshold should also be increased, but the LCAP should be retained.

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 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?**

In a uniform clearing price auction such as the ERCOT real-time energy market (in zonal and in nodal), the profit-maximizing offer strategy for a competitive supplier is to offer at short-run marginal cost. This is supported not only by economic theory, but by day-in and day-out observations of actual market behavior by competitive suppliers in the ERCOT market and in

other ISO markets around the country.¹ Hence, if the market is competitive, the changes suggested in question nos. 5 and 6 will have no effect on the offer strategy of market participants and therefore no effect on market outcomes.

While the competitive incentives associated with the uniform clearing price auction promote efficient short-term market outcomes, it is well-known and well-documented that these mechanisms alone lead to the so-called "missing money" problem, as described below by Dr. Paul Joskow:²

"Because electricity cannot be stored economically and electricity demand varies widely over the hours of the year, sufficient capacity must be built to balance supply and demand reliably under peak conditions. This implies as well that a significant amount of generating capacity on an efficient system is "in the money" to generate electricity only for a small fraction of the hours during a typical year. The last increment of generating capacity may not be called at all to generate electricity in many years, standing in reserve to meet low-probability high-demand

¹ "...in a competitive market, a generator lacking market power would be expected to submit bids into the NYISO spot market at a level that, if accepted at that bid price, would be expected to cover the generator's marginal costs. This is because, as we explain below, under NYISO's uniform market-clearing price auction procedures, a seller's profits are maximized by marginal cost bidding. In contrast, the ability to include and recover costs in excess of marginal cost, including fixed costs, in bids during periods when the generators are required to run for reliability is evidence of market power. In NYISO's auction, the lowest-bid increment of energy is accepted first, and higher-priced increments are accepted next, until the last increment of energy (or portion thereof) is accepted, and the last increment establishes the market-clearing price that all accepted bids receive. Thus, in a competitive market, bidding above one's marginal cost would not necessarily increase the market price, but would risk pricing the generator out of the market such that its bid would not be accepted." *Order on Proposed Application of Mitigation Measures and Compliance Filings*, FERC Docket No. ER09-1682, at 27 (footnotes omitted) (May 20, 2010).

"Under the present uniform-pricing rules, suppliers in an effectively competitive market have every reason to bid approximately their marginal opportunity costs for energy in each of the blocks of power that they offer. They know that if any of those bids is rejected because there are sufficient lower bids to satisfy demand, they will be better off, because they will not have committed themselves to sales at prices that fail to cover their avoidable costs. More important, they know also that on their accepted bids they will receive the full benefit of whatever price above that level is necessary to equate demand and supply in the market, regardless of the level of their own bids, permitting them to pocket the difference between their avoidable costs and the market-clearing price as a necessary contribution toward recover of their fixed charges and profits." *Blue Ribbon Panel Report, Pricing in the California Power Exchange Electricity Market: Should California Switch from Uniform Pricing to Pay-as-Bid Pricing?*, Kahn, Alfred E. (Cornell University), Cramton, Peter C. (University of Maryland), Porter, Robert H. (Northwestern University), Tabors, Richard D. (Massachusetts Institute of Technology), at 3-4 (footnotes omitted) (Jan. 23, 2001).

"The basic function of a market monitor is to assess when prices are not competitive. This assessment usually involves consideration of offers. In a single price market, offers that do not reflect market power should equal marginal costs. Therefore, there is a relatively straightforward test of market power in a single clearing price market: assess whether offers track marginal costs. Egregious deviations from marginal costs are suggestive of market power. *Single Clearing Price in Electricity Markets*, Baldick, Ross (University of Texas at Austin), at 24 (February 18, 2009).

² *Capacity Payments in Imperfect Electricity Markets: Need and Design*, Joskow, Paul L. (Massachusetts Institute of Technology) (Dec. 5, 2007) (<http://econ-www.mit.edu/files/2095>).

contingencies. This means that these generators must earn all of the net revenues (revenues net of fuel and other operating costs) required to cover their investment costs during these few critical hours.

To do so, energy and ancillary service prices must be quite high during these hours in an "energy only" market design (i.e., without capacity payments) to induce investment in generation consistent with the reliability criteria imposed on system operators. Infra-marginal generators in an efficient generation portfolio may earn a significant fraction of their net revenues during these hours as well. If prices during these few critical hours are too low, then the net revenues will be inadequate to support the efficient quantity and mix of generating capacity; that is, there will be underinvestment in generating capacity, too many hours when capacity is fully utilized, too much reliance on non-price rationing, and too high a probability of a network collapse. I will follow Cramton and Stoff (2006) and refer to this as the "missing money" problem."

To address the "missing money" problem and meet the imposed reliability requirements, competitive electricity markets must be accompanied by a capacity construct that is properly linked to the externally-imposed long-term resource adequacy requirements, or planning reserve margins. In the context of electricity markets without fully-developed, active demand bidding in the real-time markets, such capacity constructs can take the form of centralized capacity markets or energy-only markets with shortage pricing mechanisms for deficiencies of required operating reserves ("Shortage Pricing Mechanisms," or "SPM") set at levels high enough to serve as a proxy for the active demand-side bidding that is absent in the real-time markets.

The focus of a competitive and efficient energy-only market design should be to ensure that of the SPM is set high enough to produce the price signals necessary to achieve the long-term resource adequacy requirements while maintaining competitive and efficient short-term market operations, as opposed to an energy-only market that allows for, or even relies upon, offer strategies that deviate from the competitive incentive as suggested by question nos. 5 and 6.

If the market is competitive, relying upon non-competitive offers without establishing the proper SPM will not achieve the long-term resource adequacy requirements, which clearly is not in the interest of electricity consumers in Texas. If the market is not competitive, allowing for non-competitive offers in conjunction with the energy-only market design will likely be more costly to Texans than the implementation of a centralized capacity market. Further, without the proper SPM, such an approach may not only raise costs for consumers, but may also fail to achieve the long-term adequacy requirements.