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PUC PROCEEDING RELATING TO RESOURCE AND RESERVE ADEQUACY AND SHORTAGE PRICING	§ § § § §	**PUBLIC UTILITY COMMISSION OF TEXAS**

TEXAS INDUSTRIAL ENERGY CONSUMERS' COMMENTS

I. INTRODUCTION

The issue the Commission set out to solve with respect to Non-Spinning Reserve Service (NSRS) was the so-called "price suppression" or "price reversal" that occurs when NSRS is deployed. As this issue has been examined in more detail, two primary causes of the "reversal" have been identified. First, NSRS offer curves are often lower than the offer curves submitted by generation that is offered into the balancing energy market to be dispatched through SCED.[1] Because the cheaper NSRS energy is withheld from the market until ERCOT releases it, prices often increase as an NSRS deployment is approaching, and then fall as the cheaper NSRS energy is released. Second, some have argued that the NSRS offer curves are "too low" because NSRS providers receive a capacity payment in the day-ahead market. While there are rational market justifications for these outcomes and the impacts are often exaggerated, TIEC understands that the Commission has a desire to address them.

Both of these issues would be eliminated if the NSRS energy were simply offered into SCED, which may not be a viable option until look-ahead SCED is implemented. In the meantime, two simple changes provide a near-term solution: (a) online NSRS energy should always be available to SCED to avoid prices rising and then falling once cheaper NSRS energy is released, and (b) the NSRS offer curves should be adjusted to offset the potential impact of the day ahead capacity payments.[2] This means increasing the NSRS offers to a level that approximates how that energy would have been offered into SCED if NSRS did not exist, which should primarily be based on start-up costs (note that since on-line units have already incurred start-up costs as part of a competitive decision to operate, any increase for on-line units should

[1] Security Constrained Economic Dispatch.

[2] TIEC notes that if any offer floors are put in place for NSRS, capacity payments that were made day-ahead to reserve the NSRS energy should be clawed back when the NSRS is deployed to prevent double-payment.

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be minimal). This is the extent of the measures that are appropriate to address the issues related to NSRS.

However, certain generators have proposed to resolve the NSRS pricing issues in a manner that is actually aimed at creating out-of-market wealth transfers from load to generation in the name of addressing resource adequacy concerns. Under their proposal, NSRS prices would be administratively increased *far beyond* what the offer curves would look like if that energy were offered into SCED. TIEC's fundamental position in this proceeding (a position shared by other customers and the IMM) is that administratively determined scarcity prices should only be applied when there is *true scarcity*, meaning there is a shortage of available generating capacity relative to demand. As TIEC has previously demonstrated, NSRS deployments are an extremely poor indication of scarcity conditions.[3] Instead, NSRS is often deployed to address what has been called a "timing" issue that occurs when load is increasing faster than the online generation. NSRS bridges the gap between the time that additional energy is needed and the time at which additional units can be online or increase their output to meet that need. During a typical NSRS deployment, there is no true shortage of capacity, as there are often numerous generation units available to serve load, just not within the time frame necessary to avoid deploying real reserves. Because NSRS deployments are unrelated to a capacity shortage or true scarcity, it is inappropriate to inject scarcity pricing into the NSRS market through a mechanism that legitimizes and potentially encourages economic withholding.

If the Commission believes that price signals related to resource adequacy should be revised, it should examine the scarcity pricing mechanisms that are in place through an open and robust debate, as it did in Project No. 31972, and should not create an inefficient market design by trying to address these issues indirectly and haphazardly through NSRS pricing.

[3] Stakeholders' analyses of non-spin deployments confirm TIEC's position that NSRS deployments are not generally related to scarcity. Only about 50% the non-spin deployment hours would change the SCED price under ERCOT's analysis, while using Luminant's assumptions, less than 20% of NSRS deployments affect price. The hours in which the price would change are relevant because this is ERCOT's determination of when the NSRS deployments would have been needed to serve load.

II. RESPONSE TO COMMISSION QUESTIONS

1. Proposals to introduce an offer floor into the market for the procurement of NSRS have ranged from about $72 to $3000. How would the different offer floors on the Non-Spinning Reserve Service scenarios impact wholesale electricity prices?

The NSRS pricing proposal supported by Luminant and NRG bears no relationship to how NSRS providers would offer their energy into SCED.[4] In fact, supporters of that proposal do not pretend that this is their intent. Instead, the goal behind this proposal is to funnel additional revenues to generators through a mechanism that does not correlate with scarcity in order to avoid openly and transparently debating whether the Commission's current rules on resource adequacy should be changed. In contrast, the floors proposed by CPS and the IMM are more than adequate to approximate the actual costs of units in the online and offline NSRS bid stacks to offset any potential effects of the day-ahead capacity payment.

Estimated impacts of the Luminant/NRG price floors presented at the Reliability Deployments Task Force (RDTF) have ranged from a total additional Peaker Net Margin of $5,000 to $320,000. This extraordinarily broad range of cost impacts demonstrates that (1) the impacts of Luminant/NRG's proposal are still so poorly understood such that ERCOT has been unable to adequately model how it would work, and (2) Luminant/NRG's proposal will produce radically different costs to consumers depending on the circumstances of a particular year. **This is why the Commission should make market design changes that are based on *principles and sound methodologies*, rather than trying to "pick a price."**

The primary variable between the different cost impacts that have been calculated for this proposal appears to be the number of hours during which the proposed NSRS floors will set the price. Market participants have spent substantial time and energy arguing about how to determine the number of hours to be used for calculating cost impacts and where on the floors the price would be set. While it is impossible to predict this for future years with any accuracy, TIEC has approximated what the cost impacts would have been if Luminant/NRG's proposal had

[4] This was formerly called the "Compromise Proposal," but it has become unclear through RDTF discussions which other stakeholders support this proposal other than Luminant and NRG, who have supported it throughout.

been in place in 2011. TIEC has attached its calculation of these impacts as Exhibit A, along with the assumptions that were used to make the calculations.[5]

As the attached chart shows, TIEC estimates that the Luminant/NRG proposal would have increased average prices by $46.49/MWh in 2011—approximately a **93% increase in average prices**—if the LCAP were not applied.[6] If the LCAP remained in place, the cost impact would still have been approximately $17/MWh, nearly a **35% increase in prices**. These dramatic cost increases are consistent with the methodology and calculations presented by ERCOT.[7] These cost impacts are extreme and unjustified, and demonstrate that the Luminant/NRG proposal will result in great harm to the market.

As TIEC has noted previously, NSRS deployments have little to do with true scarcity. Rather, NSRS is often deployed to address what has been called a "timing" issue, which occurs when load is increasing faster than additional units can be turned on or can increase their output to meet the new demand level. This occurs despite having ample capacity available to serve load. Because of this, transferring dollars to generators through NSRS pricing will have virtually no impact on how often these proposed NSRS floors will come into play in the future. This is why it is critical that any scarcity pricing mechanism be tied to a market feature that directly correlates with scarcity conditions, so that the price signal to build additional resources will come into play less often as resource adequacy improves. This would not be the case under the Luminant/NRG proposal, demonstrating why it wholly improper and inefficient to collaterally attack the Commission's existing scarcity pricing mechanisms through NSRS pricing.

Attachment A also shows the price impact of the floors supported by the IMM and CPS.[8] These floors will result in a price increase of approximately 4%. While this is still a substantial increase, these floors are at least intended to approximate how a generator would competitively bid its energy if the NSRS market did not exist (based on estimated start-up costs). The IMM/CPS floors are therefore arguably intended to correct a perceived market inefficiency in NSRS deployment, rather than trying to ensure that generators receive a certain level of revenue.

[5] The calculations are based on data provided by ERCOT. ERCOT has not provided unit specific data for deployment, LSL, or HSL, which are necessary to more accurately model the impact of the various proposals.

[6] Certain generators have asked to have the LCAP removed, which is why this potential cost impact is important.

[7] See ERCOT presentations on 9/23 and 10/10 to the RDTF.

[8] This was formerly the Morgan Stanley proposal, but the primary proponents have been the IMM and CPS.

Resource adequacy issues and scarcity pricing mechanisms should be addressed separately, and not through NSRS pricing.

TIEC also understands that CPS intends to file a new proposal with dollar price floors of $100 for online units and $150 for offline units. TIEC generally does not support price floors; but if floors are going to be put in place, the new CPS floors appear to be reasonable approximations of what competitive offers would look like from the units that participate in the NSRS market.

2. *Should the Commission establish reliability requirements by rule rather than relying on ERCOT and the stakeholder process?*

TIEC is not opposed to the Commission establishing some general reliability requirements. However, TIEC is not aware of any major issues with the current reliability requirements at ERCOT. The February 2nd events were an extreme weather event, and ERCOT's existing reliability requirements served their purpose of maintaining grid stability while adjusting available supply to meet demand given the unprecedented level of forced outages. ERCOT was also able to maintain reliability during the exceedingly extreme weather events in early August. Given the existing roles of TRE and NERC in setting reliability standards, the Commission should proceed cautiously to avoid creating duplicative or conflicting requirements.

3. *What impact would the NSRS proposals have on future contribution to the Peaker Net Margin?*

The Commission originally set out to correct a perceived market inefficiency that caused prices to "reverse" or be "suppressed" when NSRS is deployed. As discussed previously, ERCOT and stakeholders believe that this is the result (a) of cheaper energy being withheld from SCED until NSRS is deployed, and (b) NSRS offers into SCED being potentially below what they would be if NSRS did not exist and no capacity payments were made day-ahead. The Commission should be focused on how to correct these limited NSRS issues, and should not try to address broader resource adequacy issues through NSRS pricing. Correcting any market design inefficiency may have either a positive or negative impact on prices and Peaker Net Margin,[9] but producing such an impact through NSRS pricing should not be the objective.

Contribution toward Peaker Net Margin serves a specific purpose under the Commission's resource adequacy rule (PUC Subst. R. 25.505). As TIEC has explained before, NSRS deployments are not an indication that there is a lack of installed capacity, and are not a reliable indication of scarcity conditions. It is therefore inappropriate to treat the NSRS market as a scarcity pricing vehicle. Like modifying any other market feature, changing NSRS pricing may increase contributions toward Peaker Net Margin, but this would be an inappropriate goal. Instead, if ERCOT wants to continue procuring NSRS, the Commission should endeavor to design the NSRS market so that it interacts with the Balancing Energy Market in the most competitive and efficient way achievable. Accordingly, if the Commission wants to adopt NSRS floors, the goal should be to approximate the price at which NSRS energy would have been offered into SCED if the NSRS service did not exist. The goal should *not* be to inject an inappropriate scarcity pricing mechanism into a sector of the market where it does not belong.

4. *Is the Peaker Net Margin trigger working to incent new development? If not, why not?*

The $175,000 Peaker Net Margin threshold in the Commission's resource adequacy rule is not a target for incenting new generation development. Instead, it is a circuit-breaker to indicate when the System Wide Offer Cap should be reduced in order to "protect[] load from excessive transfers of wealth to generators during periods of low reserve margins."[10] The Peaker Net Margin threshold is intended to ***limit*** excessive wealth transfers, not serve as some kind of revenue entitlement for generators. Under P.U.C. Subst. R. 25.505(g), when net margins reach $175,000, the System Wide Offer Cap is set at a reduced level known as the LCAP. In setting the Peaker Net Margin limit at $175,000 in 2006, the Commission explicitly recognized that this was *far in excess* of what it would actually cost to build new generation. As the Commission explained, "The rule, as amended, has set the PNM to allow more than *twice* the annualized fixed costs of a new gas-fired peaking unit."[11] The IMM's 2010 State of the Market Report explains

[9] It is highly questionable whether PNM is even an appropriate metric for measuring whether there is sufficient market revenue to support new builds, as discussed in further detail in response to Question 4.

[10] *See* Project No. 31872, Order at 73 (Aug. 24, 2006).

[11] *Id.* at 74 (emphasis added).

that the current net revenue required to satisfy the annual fixed costs (including capital carrying costs) of a new gas turbine unit is approximately $80,000-$105,000 per MW-year.[12] The actual PNM to date in 2011 exceeds this value by approximately 10-40%.[13]

Given the reasoning behind the Peaker Net Margin limit in the Commission's rule, which is a very high threshold intended as a circuit-breaker, the market should not be designed with the end goal of hitting this number. Moreover, history demonstrates that it is not necessary to even approach this number in order to incentivize new generation. Peaker Net Margin in ERCOT has *never* hit $175,000, and yet more generation has been built in ERCOT than in any other market in the country. It is also important to bear in mind that there are a multitude of types of generating units other than "peaking units" that also provide peaking capacity. These units also provide energy value to the system and would not need even the level of revenues identified in the IMM's report to support their construction. The fact of the matter is that PNM has generally been lower in recent years (other than 2008[14] and 2011) to reflect that there has not been a capacity shortage. If there is a shortage developing now, the market must be given time to react as it has in every previous period where shortages where projected.[15]

5. *What relationship does the Peaker Net Margin have to forward prices?*

Forward prices will be impacted by any factor that causes the market to believe that prices will be higher or lower in the future. This includes every input that goes into electricity generation pricing, including competing fuel prices, taxes, economic conditions, regulatory interventions, environmental rules, labor costs, congestion, weather, and a host of other external factors. Peaker Net Margin is a measure of the market's contribution to a relatively inefficient unit that is not expected to run frequently, and this contribution margin is a function of market prices that are in turn influenced by all of the factors listed above. Accordingly, changes in Peaker Net Margin may indicate that overall generator profits are increasing or decreasing from

[12] State of the Market Report at xiii (available at: http://bit.ly/qSAx4X).

[13] *See* ERCOT's cumulative PNM calculation, available at: http://bit.ly/pgHZTd.

[14] The 2008 PNM was largely attributed to inefficient transmission congestion management, which were soon corrected. *See* State of the Market Report at xiv.

[15] *See* TIEC Comments filed in this project on June 13, 2011.

year to year, and this revenue change may be a factor that impacts forward prices just like a host of other factors.

Generation investment decisions are made by comparing a particular investment's costs with the revenue that the investment is expected to generate. This forecast will almost always be driven by market fundamentals—that is, market revenue that would be generally available to a new generation asset for the services the asset expects to provide (such as energy, ancillary services, etc.). A well-designed market will send scarcity prices only when there is actual scarcity, and the more rational and efficient those signals are, the more impact they will have on investment decisions. Inefficient and irrational wealth transfers to generators are discounted by investors, who are unlikely to believe that such revenue will continue over the life of the asset. This has been seen with ICAP in other markets, where investors simply discount the revenue as speculative and prone to regulatory interference. Similarly, because NSRS deployments are not related to the level of installed capacity in ERCOT, changing the NSRS pricing as Luminant and NRG propose is likewise inefficient and irrational, and is therefore unlikely to support new investment.

III. CONCLUSION

If the Commission is concerned that NSRS deployments are inappropriately suppressing prices, then the Commission's goal should be to make the NSRS energy available to SCED to the extent possible, and revise the NSRS pricing to approximate what the energy offer curves would be if the NSRS service did not exist and the energy were being offered into the energy market (i.e., if there were no day-ahead capacity payment). The price floors in the current IMM/CPS proposal (and the proposal that CPS is expected to file today) provide an acceptable approximation of these values.

If the Commission believes that there is a resource adequacy problem, it should examine the scarcity pricing mechanisms that are currently in place. These mechanisms are appropriately used to signal a need for more generation, and TIEC is open to debating the merits of potential changes to these mechanisms. The Commission should avoid adopting an inefficient and costly change to NSRS pricing, which would constitute an end-run around addressing resource adequacy directly. If there is a resource adequacy problem, that problem should be addressed at its source in a manner that promotes efficiency in the overall market design.

Respectfully submitted,

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