Ancillary Service Overhaul

Comments submitted by Luminant Energy LLC

Luminant appreciates ERCOT's initiative to revamp and improve the existing set of ancillary services to better meet the changing needs of the ERCOT system. Specifically, Luminant supports more efficient dispatch of regulation, a market-based approach to Synchronous Inertial Response, and an economically optimized portfolio of FFR and PFR. Luminant also supports continued discussion around the future need for Supplemental Reserve. Given the magnitude of this endeavor, Luminant offers these preliminary questions for stakeholder discussion.

Direct Control of Regulation:

Luminant appreciates ERCOT's concession on direct control of regulation.   Luminant offers the following implementation questions and observations for stakeholder discussion:

1. Will ERCOT consider the cost and revenue implications of resource specific instructions when calculating deployment? For example, would ERCOT consider QSE submitted resource-specific offers, reflecting the individual resource economics? Similarly, will ERCOT consider the LMP associated with each resource specific regulation instruction? Traditionally, the QSE has been responsible for economically optimizing an Ancillary Service Resource Responsibility and deployment. If this flexibility is limited with resource specific instructions, ERCOT must consider resource economics and revenues. Luminant believes that the whitepaper must outline how resource specific instructions will consider resource economics to achieve an efficient dispatch of regulation.
2. Luminant believes that the pay-for-performance objectives and conceptual methodology must be clearly stated in the whitepaper. Current market rules institute a charge for non-performance. How does pay-for-performance differ from existing metrics (e.g. Base Point Deviation?) The existing methodology of QSE deployed regulation includes the same telemetered data that would be generated for an ERCOT initiated resource-specific instruction.
3. Luminant is unclear why "pay for performance" is predicated on resource specific instructions originating from ERCOT? Currently, QSEs telemeter, on a 4-second basis, which resources are responding to ERCOT-initiated instructions. Luminant believes that ERCOT currently receives sufficient data to calculate a pay-for-performance mechanism. Base Point Deviation charges and GREDP are calculated for these resources, including deployments for regulation.
4. Luminant believes that ERCOT's intent to minimize the deployment of regulation to ten consecutive minutes will greatly improve the efficiency of the real time market.

Synchronous Inertial Response (SIR)

Luminant supports an organized market for Synchronous Inertial Response as soon as practical. ERCOT has stated that the need for SIR has not yet materialized. Using the RUC process as an interim solution

may have material impacts to real-time energy prices. Resources receiving SIR revenues committed for system inertia will impact LMPs, energy reserves, and ORDC payments.   What criteria must be met to demonstrate a need for a fully functioning SIR market? Rather than wait for RUC instructions for system inertia to determine a timeline for SIR, Luminant suggests that ERCOT establish structures, triggers, and timelines for market design. A fully functioning market design and implementation may precede and eliminate the need for a market to prevent inefficient RUC instructions. If system inertia is sufficient naturally, then SIR prices should clear at zero.

Fast Frequency Response / Primary Frequency Response

 Luminant supports equitable and economic implementation of Fast Frequency Response and Primary Frequency Response to be more inclusive of emerging resources and changing system needs. Primary Frequency Response and Fast Frequency Response, to a certain extent, are substitutes. Since ERCOT suggests to procure both products in one Auction, Luminant poses the following implementation questions:

1. How does ERCOT intend to develop substitution rules for both product? Will the procurement of both products be economically optimized?

2. How will participation requirements differ for storage resources?

3. Does ERCOT intend to allow CR and PFR to be carried on the same unit?

Contingency Reserve Service

Luminant appreciates the need for a 10-minute product to recover from DCS events or other resource contingencies. In support of efficient implementation, Luminant provides the following suggestions for stakeholder discussion:

1. The amount of CR provided by a resource should be limited to the amount of capacity deliverable in 10 minutes.

2. Since this service will not be required to be frequency responsive, there is no need to limit the MW capacity of a unit to a predetermined percentage of HSL (e.g. 20%.)

3. Consistent with the above statements, Quick Start Generators should qualify to provide CR service.

Considerations for Supplemental Reserve:

Luminant suggests that ERCOT formalize the future for a thirty-minute product comparable to the Existing 30 minute Non-Spin Service within the definition of Contingency Reserve. Non-Spin provides operators a valuable option to recover regulation reserves. Luminant suggests ERCOT consider formalizing this option, rather than temporary inclusion in the future set of ancillary services.

The ERCOT-led Long Term Study, published in draft form in October of 2013, suggests that as wind penetration on the ERCOT system increases, 30-minute net load ramps will decrease in frequency while increasing in potential magnitude (see figure below.)
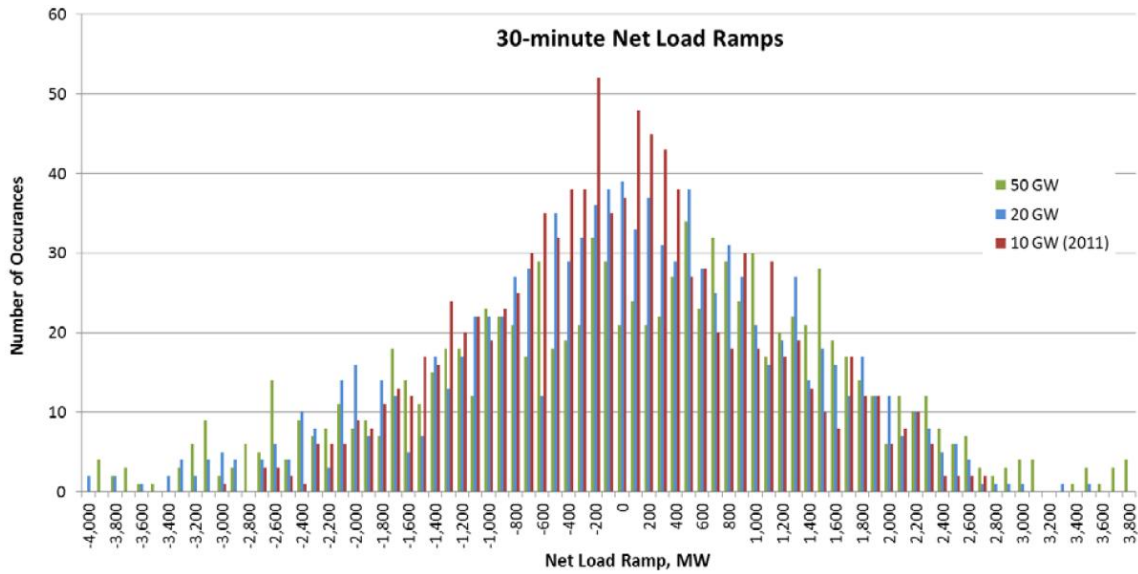
"Figure 32: 30-minute Net Load Ramps for 20GW, 50GW, and 2011 Renewable Levels." **ERCOT Long-Term Transmission Analysis 2012-2032 Final Report, Draft Version 1.0**

Non-Spin, like other Ancillary Services, can recover load-following reserves for unforeseen contingencies, including net-load ramps associated with intermittent resources. Given the growing need for this service, Luminant suggests that ERCOT formalize the product in the next draft of the Ancillary Service Overhaul Whitepaper.