Future Ancillary Services

Comments on ERCOT proposed Protocol Revisions

Submitted by Luminant Energy Company LLC

In response to ERCOT’s proposed edits to accommodate the Future Ancillary Services Project, Luminant respectfully submits these comments to support effective implementation of the project. This coversheet complements an Excel spreadsheet compiled by Luminant as a guide to proposed changes and updates. These comments are supplemental to a previously filed “High-Level Policy Concerns” paper offered by Luminant.

The Excel spreadsheet includes separate tabs, divided as follows:

* Reference: This tab includes suggestions where Luminant observed protocol changes or suggested protocol changes that may be applicable across products. This section also includes reference updates that may be generally relevant to ancillary services, but not specific to any one product.
* Reg\_Fast Reg tab includes protocol suggestions specific to Regulation and Fast Regulation products.
* The PFR\_FFR tab includes protocol suggestions specific to Primary Frequency Response and Fast Frequency Response.
* The CR\_SR tab includes protocol suggestions specific to Contingency Reserve and Supplemental Reserve.

Luminant prepared the worksheet as detailed above such that issues, by product, that involve references to various protocol sections may be easily observable. A high-level summary of each tab is detailed below, in this document.

**Reference**

1. Luminant offered suggestions to increase transparency in ancillary service markets by posting the results of an auction by product (e.g. CR1, CR2, SR1, and SR2 should be published separately, including proportions of each and equivalency ratios.) This may be an item worthy of consideration after sufficient liquidity is present in each product.
2. ERCOT references its intention to monitor synchronous inertia. Luminant respectfully requests that ERCOT post this information in Real-time to enable market participants to better understand system conditions with respect to system inertia.
3. Luminant requests that ERCOT post supporting studies for the annual/monthly ancillary service procurement targets in advance of actual market changes, allowing sufficient time for a market participant review.
4. ERCOT’s protocol revisions support the”manual” release of PFR reserved capacity to SCED. The proposed language is not consistent across each section of the Protocols where this intent is referenced.
5. ERCOT proposed protocol changes that allow the ISO to immediately procure additional ancillary services following the implementation of a Watch / Emergency conditions. Recent protocol changes allow a delay in the SASM process to allow market participants to update their offers.
6. Luminant believes Fast Frequency Response Service should be load following, in an up and down direction, to achieve desired balancing characteristics. As proposed, Load Resources can provide FFRS1, FFRS2, CRS2, or SRS2. Typically, load participation in these products would be exclusively capable of providing a reduction in load. Luminant suggests that ERCOT consider modifying the product definitions and practices to be more conclusive about the characteristics required for each product to provide the service as a load. For example, a battery capable of rapidly changing from a load (charging) to a gen (discharging) may be well suited for FFRS1, where a load behind an under-frequency relay may not provide a similar balancing service.

The Reference tab also includes numerous other references that are non-substantive in nature and further detailed in the spreadsheet.

**Reg-Fast Reg**

1. In the LFC Process Description, ERCOT details how products respond to four-second instructions derived from ACE calculations (frequency, in the ERCOT system with no unscheduled tie flows / inadvertent interchange.) The draft protocol revisions suggest that each QSE providing CRS1 also respond to four-second instructions. CRS1 resources have ten minutes to respond to a request for energy, rather than a four-second change in output. This appears to be a find-and-replace RRS reference (with CRS.) As drafted, the requirement is not consistent with the CR service, which does not have a frequency responsive obligation as defined.
2. As proposed by ERCOT, Ancillary Service Trades to fulfill a PFR/FFR obligation must still be subject to an equivalency ratio. Additionally, a QSE may not alter the overall ERCOT portfolio ratio of PFR and FFR (e.g. FFR may be traded for PFR subject to an equivalency ratio, but not the opposite.) Luminant suggests that the same language be developed for regulation and fast regulation.

**PFR\_FFR**

1. Luminant noted a lack of consistency, detail, and mechanics of ERCOT’s intent to release PFR capacity reserved behind a HASL to SCED (e.g. under what circumstances / EEA levels may ERCOT release PFR to SCED?) Should all PFR capacity have an energy offer curve or accept a proxy upon release? This concern is further detailed in the spreadsheet.
2. Luminant observed a series of deletions in Section 3.18, Resource Limits in Providing Ancillary Service. Luminant suggests that ERCOT restore the language defining Resource Limitations updated to accommodate the new proposed ancillary services.

1. Luminant noted that the coordination and deployment thresholds for FFRS1, FFRS2 were not noted in the protocols. While this may be the work product of subsequent studies, Luminant encourages ERCOT to outline how this may be calculated and where they intend to document the result.
2. Luminant noted that the manual deployment process and/or partial manual deployment process for FFRS and FFRS2 is not sufficiently detailed. Similarly, deployment in an EEA of PFR is not sufficiently detailed (e.g. the amount of PFR and timing of a deployment is not specified.)
3. Luminant noted that the on-site independent detection of frequency and proportionate response requirements for FRRS should be applicable to FFR as well. As drafted, this detail was not carried over to FFR products.
4. Luminant is uncertain, based on ERCOT’s edits to section 8.1.1.4.2, if PMUs are intended to be installed at each FFR resource’s site. Numerous references appear to suggest that PMUs or measuring equipment of similar fidelity will be needed at each resource. Luminant suggests that ERCOT make this requirement clearer.

**CR\_SR**

1. Luminant observed numerous changes to the dispatch and price mitigation of quick start resources. Specifically,
   1. Reporting of HSL/LSL should be consistent with the existing practice of reporting this in the QSE specific Current Operating Plan.
   2. ERCOT should restore the deleted paragraph in Section 3.8.3(3) that specifies that Quick Start Resources are not frequency responsive when offline.
2. Luminant suggests that ERCOT further detail their intentions for deployment of block loads with a Contingency Reserve Resource Responsibility. Additionally, Luminant suggests that ERCOT reiterate in protocols their intentions to offset price reversals associated with block load deployments with a Reliability Deployment Price Adder for CR/SR non-controllable loads.
3. Section 6.4.4.2 Paragraph (a) retains a $75 price floor for online Contingency Reserve and Supplemental Reserve Resources. This does not appear to be consistent with other protocol revisions reserving these services behind a resource’s HASL. Luminant questions the need for floors if the capacity is going to be held behind the HASL.
4. Luminant observed that the “deployment” of CR is not sufficiently detailed. In certain sections it appears that “deployment” refers to a release of capacity to SCED, while in other sections it appears that “deployment” refers to a request for energy. Luminant contends that there are two types of deployment for CR. For CRS1, “deployment” should refer to release of capacity to SCED, as this is a controllable resource with a valid/proxy Energy Offer Curve. CRS2 “deployment” of non-controllable loads should represent a request for energy.
5. CR qualifications, as detailed in Section 8.1.1.2.1.4, appear to test QSE telemetry, rather than resource performance to an instruction. Similarly, for Load Resource qualification to provide CRS2 appears to be limited to a validation of historic consumption. Luminant suggests that ERCOT revise these sections to be more focused on demonstrated performance of a resource/load resource.
6. The performance standard detailed in section 8.1.1.4.4 subparagraph (2), Contingency Reserve Service Energy Deployment Criteria, only refers to offline resources. Luminant suggests that the ERCOT create protocol language to govern online resources providing Contingency Reserve, to complement the performance standards for offline resources.
7. SR performance standards for Offline Generating Resources, as detailed in Section 8.1.1.4.5 subparagraph (3) are more stringent than the performance standards for Offline CR. Luminant suggests ERCOT revisit these performance criteria and consider aligning the metrics of both products. Luminant suggests that performance standards for both products should be consistent with the current standards for Quick-Start Generation Resources and draft CR performance requirements.

Luminant appreciates the opportunity to critique ERCOT’s monumental effort in overhauling the portfolio of Ancillary Services. Please refer to the spreadsheet for greater detail, and contact Greg Thurnher or Amanda Frazier if questions arise.