From: Michael Sheehan

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Subject: DE 16-576 Net Metering - Lebanon 1.1.3
Date: Friday, August 12, 2016 10:58:35 AM
Attachments: ESTIMATION OF SELLER HOURLY LOADS.DOCX

To the DE 1-576 discovery service list,

Please consider the following (and the attached) as Liberty's response to Mr. Below's oral request to clarify the response to Lebanon 1-1.3 during this yesterday's technical session.

National Grid's process for estimating load for hourly market settlement at the ISO, which process Liberty continues to use, is as follows. Liberty starts by developing an estimate of the hourly load for each customer, then aggregates the loads into the various load assets of the suppliers who serve those customers, and adjusts the data using the fixed rate-class based loss factors, which were provided in Liberty's response to EFCA 1-6(c&d). The load assets are then summed to determine the system estimated load. This is then compared to the actual, metered supply, based on the wholesale revenue metered delivery points. Any difference (called residual) is allocated proportionally (load weighted) to all load assets and used for market settlement. This is all done within the Load Estimating and Reporting System run by CGI for Liberty.

Since this is a dynamic process, and Liberty uses this information to develop Energy Service rates, we have always considered the actual historic data to be confidential and commercially sensitive. Attached is Appendix A from the standard Master Power Agreement that all of Liberty's default service suppliers execute, which describes the same process in more detail.

Thank you.

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ESTIMATION OF SELLER HOURLY LOADS

Overview

Generating units operated by suppliers are dispatched by the power pool to meet the region's electrical requirements reliably, and at the lowest possible cost. As a result, a supplier's electricity production may not match the demand of its customers. In each hour some suppliers with low cost production units or that contract for the output of such units are net sellers of electricity to the pool, while other suppliers are purchasing power from the pool to meet the demand of their customers. To determine the extent to which suppliers are net buyers or sellers on an hourly basis, it is necessary to estimate the hourly aggregate demand for all of the customers served by each supplier. The Buyer will estimate Seller's Default Service load obligations within the Buyer's service territory and report the hourly results to the ISO on a daily basis.

The estimation process is a cost-effective approach to producing results that are reliable, unbiased and reasonably accurate. The hourly load estimates will be based on rate class load profiles, which will be developed from statistically designed samples. Each day, the class load shapes will be scaled to the population of customers served by each supplier. In cases where telemetered data on individual customers is available, it will be used in place of the estimated shapes. On a monthly basis, the estimates will be refined by incorporating actual usage data obtained from meter readings. In both processes, the sum of all suppliers' estimated loads will match the total load delivered into the distribution system. A description of the estimation process follows.

Daily Estimation of Suppliers' Own Load

The daily process estimates the hourly load for each supplier for the previous day. The following is an outline of this process:

- Select a proxy date from the previous year with characteristics which best match the day for which the hourly demand estimates are being produced. Extract class load shapes for the selected proxy date from the load research database.

- Scale the class load shapes appropriately for each individual customer based on the usage level of the customer relative to the class average usage level.

- Calculate a factor for each customer which reflects their relative usage level and includes an adjustment for losses ("load adjustment factor"). Aggregate the load adjustment factors across the customers served by each supplier in each class.

- Produce a preliminary estimate of each supplier's hourly loads by combining the proxy day class load shapes with the supplier's total load adjustment factors. Aggregate the loads across the classes for each supplier.

- Adjust the preliminary hourly supplier estimates so that their sum is equal to the Buyer's actual hourly metered loads (as metered at the point of delivery to the distribution system) by allocating any differences to suppliers in proportion to their estimated load.

- Adjust the hourly supplier estimates to include transmission losses within the Buyer's transmission system.

- Submit the hourly loads to the ISO.

After the Buyer has submitted the supplier hourly loads, the ISO will allocate PTF losses to the supplier's account during the settlement process.

Monthly Reconciliation Process

The monthly process will improve the estimates of supplier loads by incorporating the most recent customer usage information, which will be available after the monthly meter readings are processed. The actual customer meter readings, as well as actual interval data for the largest customers, are used to re-estimate all of the days in the calendar month being reconciled. Updates to customers' account status and supplier assignments that may have been missed during the daily processing (due to timing) are included. The resulting hourly supplier load estimates for all the days in the month are reported and used by the ISO as the basis for the monthly resettlement.