

Report of the ISO's Market Surveillance Unit (MSU) on the Implementation of the Regulation Energy Payment Adjustment

This report describes bidding behavior in the market for Regulation Services before and after the ISO's implementation of the Regulation Energy Price Adjustment (REPA) on May 21, 1998, and FERC's approval of REPA on June 24, 1998. In addition, the report addresses FERC's directive that the ISO describe any adjustments to the C factor, the effects of such adjustments on Regulation bids, the use of weighting upward and downward Regulation, and the effects of such weighting on Regulation bids.

1. REPA Impact

The objective of REPA has been to encourage increased bidding in the market for Regulation services, which prior to May 21 were often substantially below the market requirements. The ISO's MSU has analyzed the impact of REPA on the Regulation market by comparing bid quantities to market requirements.

Bid sufficiency ratios, calculated as total bid regulation capacity divided by market requirements for regulation, were computed. Average sufficiency and total market requirements were computed for weekdays and weekend days (including holidays) for each Thursday-to-Wednesday week, by adding together bid quantities and market requirements for each hour, and dividing total hourly bids by total market requirements for each week. Bid sufficiency ratios were also computed for the period prior to REPA implementation on May 21, the period between the ISO's implementation and FERC approval of REPA (May 22-June 24), and the period following FERC approval of REPA. These average bid sufficiency ratios are shown for weekdays in Figure 1, and for weekends and holidays in Figure 2. The daily and weekly ratios, and the weekly averages (by hour) of total market requirements, are listed in Table 1 for the period prior to REPA adoption on May 21, in Table 2 for the period between the ISO's implementation and FERC approval of REPA (May 22-June 24), and in Table 3 for the period following FERC approval of REPA.

Both the implementation and FERC approval of REPA have had a significant impact on bidding in the Regulation market. Prior to the ISO's implementation of REPA, Regulation bids were generally insufficient to meet market requirements, with bid sufficiency ratios typically below 50 percent (see the lower line in Figures 1 and 2). Thus, the market generally provided less than half of the ISO's Regulation requirement.

The situation improved substantially following implementation of REPA, as illustrated by the intermediate curve in Figures 1 and 2, although bids remained generally insufficient during the morning and evening ramp periods due to higher ISO requirements during these periods. Improvements continued following FERC approval of REPA (see the upper curves in Figures 1 and 2).

The implementation and approval of REPA improved the bid sufficiency for both upward and downward regulation (see Figure 3). However, the C coefficient of REPA applies to the total regulation range in calculating the payment. The ISO needs upward and downward regulation in differing amounts during the day. The Tariff or Protocols and software do not provide a mechanism that allows the ISO to specify requirements for upward and downward regulation.

REPA has had very little impact on Regulation bids by hydroelectric generators (see Figure 4). On the other hand, thermal generating units, which previously had submitted almost no Regulation bids prior to REPA implementation, now constitute the bulk of the Regulation bids. It should be noted that the implementation of REPA took place during peak water flows, and hydroelectric generators have had little ability to change their generation levels.

2. C Factor and Weighting Factor Adjustments

The ISO proposed in Amendment No. 8 to initially establish the C Factors contained in the REPA formula at 1, subject to further change by the ISO Governing Board. The Commission directed the ISO to report to the Commission on any adjustments to the C factors and the effect of any such adjustments on the Regulation bids. The ISO hereby notifies the Commission that the C factors have **not** been changed by the ISO Governing Board subsequent to the Commission's approval of Amendment No. 8.

The Commission also directed the ISO to report to the Commission on the use of weighting upward and downward Regulation and the effect such weighting has on the Regulation bids. The ISO hereby informs the Commission that the ISO has not adjusted the weighting factors subsequent to Commission approval of Amendment No. 8. The weighting factor for both upward and downward Regulation is currently set at 100 percent.

Conclusion

The ISO's analysis indicates that implementation of REPA has had a substantial impact on the number bids received in the Regulation market. As the ISO stated in Amendment No. 8, it is absolutely critical to system reliability that the ISO procure sufficient Regulation Service. Absent a sufficient amount of Regulation bids from the market, the ISO is forced to rely on expensive RMR generation to satisfy its Regulation requirement. By recognizing the additional value of regulating Energy, REPA has provided Market Participants the necessary incentive to bid into the ISO's Regulation market.

