Marginal Losses Modeling Issue under SMD2 Operation

Scheduling & Pricing WG
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Marketplace Notifications

➤ After 5 pm on Thursday, October 20, 2005, the NYISO's software vendor indicated that the marginal transmission loss methodology under SMD2 operation was not the same methodology that was in place prior to 2/1/05.

    ▪ *NYISO had been investigating differences in marginal losses under SMD2 with its software vendor since an inquiry was made by a market participant in June.*

➤ On Friday, October 21 NYISO posted an initial notice reserving prices for this issue. An additional notice was sent to Market Participants announcing the implementation of software modifications to restore the pre-SMD2 methodology for determining marginal losses.

➤ On Tuesday, October 25 NYISO posted a notice releasing all prices reserved in relation to this issue.

➤ On Wednesday, October 26 NYISO informed the Business Issue Committee of the matters related to the marginal loss modeling issue including the rationale for releasing all prices that had been reserved.

BIC Discussion - October 26

➢ Marginal (incremental) losses are an important component of the ISO Day-Ahead and Real-Time Markets and are used to efficiently schedule generating resources by accounting for each resource's impact on transmission losses. Marginal Losses are also included in the determination of LBMP to ensure consistency in generating resource scheduling and LBMP pricing outcomes.

➢ The most significant factor in the determination of marginal loss components of LBMP is the calculation of incremental loss transmission [penalty] factors. The determination of loss penalty factors is impacted, in part, by the modeling assumptions for Phase Angle Regulators (PARs).

➢ PARs may be modeled as either fixed power flow devices or free flowing devices. Prior to 2/1/2005, PARs were modeled as fixed power flow devices. From February 1, 2005 until the software modifications were implemented on October 21, PARs were modeled as free flowing devices.

➢ The NYISO has determined that both PAR modeling methods are compliant with NYISO market rules. However, to be consistent with ISO announcements detailing SDM2 operation, the ISO has reverted to the modeling methodology which treats PARs as fixed power flow devices.

➢ Since both methods are compliant with NYISO market rules, prices reserved in relation to this issue were released without correction.

Incremental Loss Factor Technical Discussion

➢ PARs have been historically been modeled as fixed power flow devices because this treatment arguably better reflects how PARs are operated for the two most common operational applications;

 ▪ ***Contractual [wheeling] obligations and,***
 ▪ ***Maximizing transmission capability (Ie. congestion mitigation)***

➢ Contractual [wheeling] obligations typically specify fixed power flow levels as a function of time of day (eg. 901/903 PARs) or as otherwise described by operating agreements (eg. A/B/C/J/K PARs). The PAR fixed power flow levels are normally maintained by adjusting PAR tap positions either automatically or by operator action.

➢ Maximizing capability into transmission constrained areas (eg. NYC load pockets, Long Island area) is normally achieved by operating PARs at a optimal fixed power flow level, typically at the normal rating capability of the PAR. This "fixed" power levels of operation are normally maintained by operator action to mitigate transmission constraints and to minimize the need for operation of local generation resources.