Settlement of Emergency Load Response and Emergency Energy Billing

Market Settlements Subcommittee
July 22, 2014
Emergency Energy charges and/or credits and Emergency Load Response Charges are allocated pro-rata based on participant's share of Real-time net interchange deviations from day-ahead net interchange versus the total deviations across PJM.

Day-ahead net interchange equals the sum of a participant’s:
- Cleared DA demand and/or DEC bids
- \textit{minus} Cleared DA Generation and/or Increment offers
- \textit{adjusted} for all DA energy transactions in which the customer is involved
Real-time net interchange equals:

- Participant’s hourly metered flows minus any ownership of metered generation adjusted for all real-time energy transactions*

*(including any load obligations [de-rated for transmission losses] or generation modeled by InSchedule transactions, and including any InSchedule transactions that were priced day-ahead) in which the customer account is involved.

Real-time net interchange is calculated using submitted initial Load values, which may be updated as part of the existing reconciliation process.
Emergency Event

- January 7, 2014

Emergency Energy Settlement included in Jan Bill*

- February 7, 2014

Load Reconciliation Data Due

- March 31, 2014

Emergency Load Response Settlement included in March Bill*

- April 7, 2014

*Does not consider Load Reconciliation data in allocation of credits/charges
Proposal

• Emergency Energy Charges/Credits:
  – Recalculate participants’ real-time net interchange to consider Load Reconciliation data
  – Adjust original charge/credit allocation using recalculated interchange 2 months after original billing
  – Load Reconciliation would change the total deviations and therefore impact all participants

• Emergency Load Response Charges:
  – Calculate participants’ real-time net interchange to consider Load Reconciliation data
  – No impact to existing bill timing
1. Adjustment to Jan. Emergency Energy Settlement in March Bill*

2. Emergency Load Response Settlement included in March Bill*

*Considers Load Reconciliation data in allocation of charges/credits
Emergency Load Response Charge Allocation Example

Assume:
- Total PJM Emergency Load Response Energy Credits to be allocated = $500,000
- Total PJM Bal Positive Interchange = 10,000 MW

Participant Specific Parameters:

**Day-Ahead:**
- Cleared DA Demand Bid: 200 MW
- Cleared Decrement Bid: 10 MW
- Cleared DA Gen Offer: 100 MW
- Cleared Increment Offer: 10 MW
- Total DA Net Interchange: 100 MW

**Real-Time:**
- RT Load: 600 MW
- Gen Actual Generation: 100 MW
- Real Time Net Interchange: 500 MW

Participant’s Calculated Real-Time Deviation from Day-Ahead = 500 MW – 100 MW
= **400 MW**
• Participant’s Share of Emergency Load Response Charges =
  Total PJM Emergency Load Response Energy Credits *
  (Participant’s Positive Bal Net Interchange /
   Total PJM Bal Positive Interchange)
  = $500,000 * ( 400 MW / 10,000 MW)
  = $20,000

• Suppose the original RT Load value of 600 MW was updated using PJM’s
  existing reconciliation process to 400 MW.
Credits Stay Same, Total PJM Interchange is Affected by Recon data:

- Total PJM Emergency Load Response Energy Credits to be allocated = $500,000
- Updated Total PJM Bal Positive Interchange = 10,000 MW 9,800 MW
- Updated Participant Specific Parameters (Reconciled Load = 400 MW)

**Day-Ahead:**
- Cleared DA Demand Bid: 200 MW
- Cleared Decrement Bid: 10 MW
- Cleared DA Gen Offer: 100 MW
- Cleared Increment Offer: 10 MW
- Total DA Net Interchange: 100 MW

**Real-Time:**
- RT Load: 600 MW 400 MW
- Gen Actual Generation: 100 MW
- Real Time Net Interchange: 500 MW 300 MW

Participant’s Calculated Real-Time Deviation from Day-Ahead = 300 MW – 100 MW = 200 MW
• Participant’s Share of Emergency Load Response Charges using Reconciled Data =

  Total PJM Emergency Load Response Energy Credits * (Participant’s Positive Bal Net Interchange / Total PJM Bal Positive Interchange)

  = $500,000 * ( 200 MW / 9,800 MW)

  = $10,204.08

• The participants charge allocation taking reconciled load values into consideration is ~$10,000 less than the amount using RT (unreconciled) load.