ATRM Changes

Alternative Technologies and Regulation Market Webinar – changes from previous design
Discussion Objectives

• Explain recent changes to the Regulation Market with specific emphasis on:
  – The new Energy Neutral Regulation Signal
  – Impacts on monitoring of the performance of Regulating Resources

• This discussion assumes knowledge in the recently revised and released regulation market web-based training
  – Available at: ISO-TEN

• High level overview of the changes
  – Two AGC signals

• Q and A session
Changes to ISO-NE Documents

• Market Rule 1
  – Section I.2.2 Definitions
  – Section III.14 Regulation Market
  – Section III.14.6:

“Resources that are generating units are dispatched based on relative response rates using multi-valued AGC SetPoints with AGC SetPoint Deadbands. Resources that are not generating units are may be dispatched using one of the following methods:

• (a) an energy-neutral a trinary dispatch that calculates AGC SetPoints equal to one of the following three values: Regulation High Limit, Regulation Low Limit, and a midpoint between the Regulation High Limit and the Regulation Low Limit;

• (b) a relative response rate dispatch using multi-valued AGC SetPoints with AGC SetPoint Deadbands, or;

• (c) an energy-neutral relative response rate dispatch using multi-valued AGC SetPoints, with AGC SetPoint Deadbands.

A Market Participant may change the dispatch method for a non-generating unit. Dispatch methodology may be changed to be effective at the start of every calendar quarter. Requests to change the dispatch method of a non-generating resource must be received no later than 30 Business Days before the requested effective date of the change.”

• Manuals
  – Manual 11, Sections 1.2, 2.5, 5.1, 5.2 have general info
  – M-REG
Input: Regulation Offer

- Entered into eMarket
- Daily offers provide default values that carry over
- Hourly offers supplant the daily offer, but do not carry over
- Unit regulating status
  - Available
  - Unavailable
- Physical offer data
  - Automatic Response Rate (ARR) in MW/minute to nearest tenth (e.g., 3.9 MW/minute)
  - Regulation High Limit (MW)
  - Regulation Low Limit (MW)
- Economic offer data
  - Regulation Capacity offer price
    - Floor at $0/MW and Cap at $100/MW
  - Regulation Service offer Price
    - Floor at $0/MW-mile and Cap at $10/MW-mile
- Dispatch Methodology (ATRRs only – must choose 1 of 3 possibilities)
  - CON
    - Conventional AGC Setpoint – default
  - Energy Neutral
    - Energy Neutral Continuous AGC Setpoint (ENC)
    - Energy Neutral Trinary AGC Setpoint (ENT)
Regulation Monitoring – Market Rule Guidance

• “The performance of a Resource providing Regulation will be monitored in Real-Time.” (Section III.14.7)

• Achieved by comparing actual Regulation MW to the AGC signal in a systematic manner

• If a resource movement is inconsistent with the AGC Setpoint, it will not get credit for the rest of the hour (Section III.14.7)

• Specific guidance on measurement process includes:
  – Tolerance band(s) based on offered Automatic Response Rate and Regulation Capacity
  – Grace periods to allow reasonable time lags
  – ARR : allow uncertainty up to +/- 20% of offered ARR
  – Regulation Capacity: allow uncertainty up to +/- 15% of the calculated Regulation Capacity.

• Two different Parameter sets are used in order to more accurately track the performance of resources following the two types of dispatch methodologies
  • One for Conventionally dispatched resources
  • One for Energy Neutral Dispatched resources

• Two parameter sets are required due to fundamental differences in the nature of the Conventional and Energy Neutral AGC setpoints

• Otherwise the performance monitoring of the resources following these two different dispatch methodologies is exactly the same.
Regulation Monitoring – Figure 6

Sample of AGC Performance Monitoring

Reg Low
Midpoint
Reg High

MW

Score for the interval is: 96.7

Score

Instantaneous Score
Cumulative Score

ISO-NE PUBLIC
Example for ENT
Example for ENC
Questions