IMM Reserve Market Proposal

MRC
January 24, 2019

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Consolidated Synchronized Reserve Market

- PJM and IMM share most aspects of the proposal to consolidate the synchronized reserve market.
- Strong must offer requirement enforced by PJM
  - IMM also includes must offer penalty
- Lower offer margin for cost-based reserve offers
  - IMM eliminates the offer margin altogether
- Penalties for nonperformance during reserve events
  - IMM penalty is stronger than status quo PJM penalty
IMM ORDC Proposal

- Simple ORDC: vertical demand with penalty factor
  - Consistent with precedent of other RTOs
  - Used for both synchronized and primary reserve
- No sloped curve, no extension beyond MRR
- Identical curves in day ahead market
- Max price equal to energy offer cap
  - $1,000 per MWh, unless PJM has approved a higher cost-based offer, per FERC rules
  - Increases at $250 per MWh increments with higher approved cost-based offers, up to $2,000 per MWh
Operator Actions

• Operators may increase the minimum reserve requirements under predefined conditions.
  • Change in the largest contingency (Synch., Primary)
  • Extreme weather (Synchronized, Primary)
  • Gas contingencies (Secondary)
• The increased requirements will have defined start and end times.
• PJM will post on its website:
  • The active minimum reserve requirements
  • The reason for any increased reserve requirements
  • The beginning and end times for the increased reserve requirements
Secondary (30 Minute) Reserves

- Eliminate Day Ahead Schedule Reserves
- Default requirement is zero
  - Consistent with no NERC requirement
- Secondary reserves may be created with an ORDC based on a PJM defined contingency
  - such as a gas contingency
  - defined under the operator actions provisions for increasing a minimum reserve requirement
- Penalty factor is $1,000 to $2,000 per MWh, as with synchronized and primary reserves.
IMM Proposed Default ORDCs

- Reserve Price ($ per MW)
- Reserve MW
- Secondary
- Primary
- Synchronized

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IMM Proposed ORDCs with Approved Cost Offer of $1,100 per MWh and Defined Gas Pipeline Contingency
Reserve Subzones

- Additive reserve prices across products and zones, without a cap
- The IMM recommends multiple subzones, but PJM says it cannot model multiple subzones.
- The IMM proposal includes only one subzone.
- If PJM cannot model multiple subzones, it should not use a subzone for secondary reserves.
  - Secondary reserves only RTO wide
Scarcity Revenue True Up Mechanism

• IMM proposed true up mechanism returns energy market scarcity rents to customers during the four transition years.

• The true up mechanism continues until adequate capacity market changes
  • VRR curve capped at Net CONE
  • Forward looking E&AS offset

• True up delivery year capacity payments by scarcity rents calculated for the reference CT using actual delivery year energy prices to determine the accurate E&AS offset.
Settlement Rule Preventing Double Payment

- The IMM proposes a new settlement rule that a resource cannot receive payment for reserve MW in excess of its applicable economic maximum output limit for the dispatch interval.
- Pay the full value for metered energy produced, but would cap the settlement of reserve MW so that payment does not exceed the resource’s stated capability.

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\text{Metered Energy MW} + \text{Reserve MW} \leq \text{Eco. Max.}
\]
One Energy and Reserves Uplift Payment

- Market incentives do not require a five minute negative balancing reserve uplift payment.
- The IMM proposes one daily uplift calculation that prevents resources that follow dispatch from operating at a loss without creating overcompensation.
- The calculation should include costs and revenues in all short term markets (energy, regulation, reserves).
- Incorporating reserves in the existing Balancing Operating Reserve Credit accomplishes this.