Markets Gateway to Case Approval
Timing for ESR Dispatch

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Data Flow to SCED and Back Again

Participant MOC
- XML Upload, or
- Manual Entry

Markets Gateway
- Validation
- Back-end DB

Operations
- Back-end DB
- Queue case for execution

Operations
- Back-end DB
- Dispatcher Review
- Case Approval

SCED
- File Copy
- Topper
- DSPD

1: function of packet size
2: see additional slides
RT SCED Approval

- RT SCED is manually approved in PJM
  - 3 solutions of 10m look-ahead (low / base / high) every 3 minutes
  - Data is continuously presented to Generation Dispatcher through UE&V interface

- Manual review for reasonableness
  - Selection of low / base / high case for expected load forecast dev.
  - Approved case unit-specific desired output is sent to participant via SCADA
Case Approval Metrics, 9/2017 – 8/2018

• Over the last year:
  – 4.8% of approvals took longer than 10 minutes
  – 0.2% of approvals took longer than 20 minutes
• Long durations due to system upgrades, market failovers
• Higher occurrence of longer durations between approvals in off-peak, afternoon scheduling of IT upgrades (mid-afternoon valley)
• Most frequent fast approvals in morning and evening ramps
  – Rate of change of load requires faster approval of new cases
Data Entry Consideration for ESR

- Parameter updates allowed intra-hour in Markets Gateway
  - Hourly Update tab for current and future hours (eco limits)
- Energy Offer updates for IDO-enabled resources:
  - Entry cutoff 65 minutes before the top of the operating hour
  - Data transfer from MG in ~ 10 sec → static for operating hour
  - Updates transferred to Execution environment in Export process

- State of Charge Management by Participant will be required
  - PJM Desired Output (economic basepoint) is your guide
  - Override as necessary locally
• State of Charge Management through Parameter Updates

• Worst case is a 10 minute round trip on data entry, average 6m
  – 10 Minute Look-ahead in solution for desired dispatch
    • Frequency Regulation Ancillary Service absorbs the slack
    – Case execution environment to be upgraded with NGEM (2019+)

• Case approval delay is a human performance variable
  – Accepted risk vs. approving an unreliable dispatch pattern