Decision on Multi-Stage Generating Unit Modeling
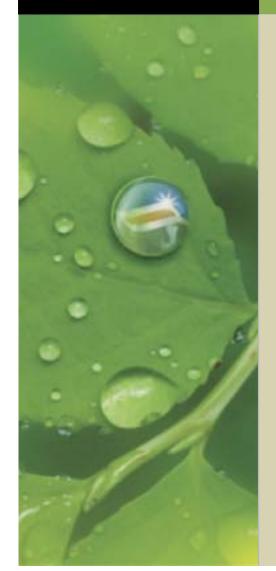
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ISO Board of Governors Meeting

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Why do we need multi-stage generation unit modeling?

- **Multi-stage generation units have multiple operating configurations**

  - Provides operating flexibility
  - Requires explicit modeling of various configurations

- **Current market software does not support effective dispatch of multi-stage generation units**

  - Forbidden operating region functionality problematic in MRTU market simulation and not implemented
  - Manual methods currently being used to ensure feasible dispatch

More accurate modeling of multi-stage generating units will provide numerous benefits.

- The ISO markets

    - Dampened price volatility

    - More accurate price signals

    - Employ units' flexibility

    - Less Exceptional Dispatch

    - Fewer uninstructed deviations

- Multi-stage units

    - Offer units' flexibility

    - Less manual management of dispatches

    - Kept in the market

    - Accurate, feasible dispatches

    - Reduced incentive to deviate from dispatches

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Input from key players used to develop the proposal.

- Conducted stakeholder process from November through April

- Benchmarking analysis of other ISOs

  - ERCOT, PJM, NYISO

- Extensive discussions with generation unit owners

- Worked with software vender to balance design needs and software constraints

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Sets bidding and settlement policy for multi-stage generation units.

Proposal establishes rules for:

- eligibility

- bidding parameters

- bid cost recovery

- resource adequacy obligations

- ancillary service certification

- information submittal

- local market power mitigation

- self-schedules

- outage reporting

Provide maximum flexibility within software performance constraints

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Proposal balances accurate modeling of flexibility with software performance.

- Day-ahead market – propose up to 10 configurations

    - At least one configuration's bid must cover Resource Adequacy offer obligation

- Real-time market – propose up to 3 configurations

    - Requirements on configuration-level bids ensure that day-ahead commitments and Resource Adequacy obligations are met

As much flexibility as the software can accommodate will be implemented

Management requests approval of the Proposal.

- Wide stakeholder support

- Proposal balances flexibility and software performance concerns

- Current implementation target is Q4 of 2009 pending vendor evaluation of requirements

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