72 – Hour Residual Unit Commitment

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Stakeholder Conference Call
June 18, 2010
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CAISO Stakeholder Process – 72-Hour RUC

1. Project is triggered
   - White Paper / Straw Proposal posted June 11, 2010

2. Draft Final Proposal

3. Revised Draft Final Proposal if needed
   - Board of Governors September 2010

Opportunities for Stakeholder Input

We are here
Timeline to Address Resource Cycling and Other Transparency and Time Horizon Market Improvements

Short Term:
  • Initial Conditions proposal

Medium Term:
  • 72 Hour RUC proposal

Longer Term:
  • Multi-Day Unit Commitment
  • Data Release Phase 3
  • Other Market Initiatives
Proposed Improvement to Address Resource Cycling – 72-Hour Residual Unit Commitment (RUC)

- Concept of 72-hour Residual Unit Commitment Process:
  - Simultaneous 72 hour optimization.
  - Hours 1-24 use IFM schedules + RUC availability bids (No change).
  - Hours 25-72 use bids submitted or RA and replicated bids if none are submitted.

- Benefits of 72-hour RUC process:
  - Improve reliability by reducing cycling.
  - Optimized commitment of resources in TD+1 HE23-HE24.
  - Determines Extremely Long Start Resources for TD+2.
  - Establishes Initial Conditions for from TD+2 will feed next days DAM.
  - Low impact to market timeline, RUC runs fast.
  - Does not require bidding rule modification for resources committed TD+2 as IFM.
  - Reduce Exceptional Dispatches.

- Limitations of 72-hour RUC process
  - May not bridge commitment if bridging results in over-generation conditions.
  - Does not fully address efficiency of an full multi-day DAM commitment process in MPM/IFM.

- Tariff modification is necessary to allow RUC to be a 72 hour optimization
  - Modify RUC Horizon definition and clarify bid usage and obligations.
Proposed Improvement to Address Resource Cycling – Current Approach – Example

- The first example illustrates current 24 hour commitment horizon approach.
- Illustrates that how a resources gets decommitted in HE23-HE24 TD+1
- Then based on initial condition resource remains decommitted for the first 6 hours of the next day
The second example illustrates that if a longer commitment horizon (48 hour in the example) was used the resource would not cycle off in HE23-HE24. As a result the resource may also stay committed for the first 6 hours of the next day.

Comparing the cost saving of not incurring a start-up on day 2 versus the cost of operating at minimum load is then compared which illustrates that a more efficient commitment solution is made by performing longer commitment horizon.
Proposed Improvement to Address Resource Cycling – 72 Hour Residual Unit Commitment (RUC)

- No Settlement Rule Change is expected:
  - Commitment Costs will be recovered for binding 24 hour period.
- No External Impact on CMRI is expected
  - ELC startup and Shutdown Instructions will be communicated the same way.
  - Commitment decisions/Energy and AS awards/Prices continue to be communicated from the next trade day’s day-ahead run.
Next Steps

- **Schedule**
  - June 25: Stakeholder comments due on white paper/straw proposal
  - July 9: Draft final proposal to post
  - July 16: Stakeholder conference call on draft final proposal
  - July 23: Stakeholder comments due on draft final proposal
  - TBD: Revised draft final proposal to post *if needed*
  - TBD: Stakeholder call on revised draft final proposal *if needed*
  - TBD: Stakeholder comments due on revised draft final proposal *if needed*
  - Sep 9-10: Board of Governors

- **Please send written comments to:**
  - 72-hour@caiso.com