



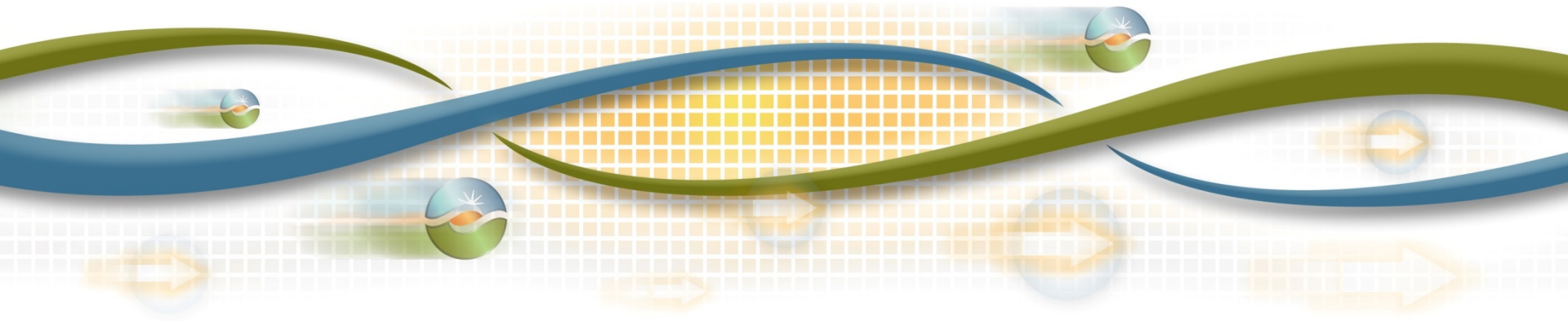
California ISO
Shaping a Renewed Future

Dynamic competitive path assessment

Stakeholder Call on July 6, 2011

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Topics covered

- Implementation timeline.
- Factors considered in pivotal supplier test.
- Application in the day ahead market
- Application in the hour ahead scheduling process
- Application for the 5-minute real time dispatch

Implementation timeline

- Implementation
 - April 2012: New LMPM in day ahead and HASP
 - May 2012: Dynamic CPA in day ahead
 - Q4 2012: New LMPM in RTPD and dynamic CPA in HASP and RTPD
- Timing is limited in RTPD
- Anticipate needing additional development and testing to apply CPA, LMPM, and bid change every 15-minutes.
- Additional changes to settlement to accommodate intra-hour bid changes.

Factors considered in pivotal supplier test

- Consider only net suppliers as potentially pivotal.
- Supply portfolios adjusted for tolling agreements.
- Consider resources with bids in market and can be started to respond in binding dispatch period.
- Will only test binding constraints.
- All supply adjusted to account for effectiveness on constraint being tested.
- Account for ramping limitations in real time market.
- Count cleared virtual supply in demand for counterflow and residual supply of counterflow.

Application in the day ahead market

- Dynamic CPA and LMPM will be run after all constraints run.
- Demand for counterflow
 - Sum of effective dispatch from physical and virtual supply.
- Supply of fringe competitive suppliers
 - Physical: maximum available capacity (PMax – outages) weighted by SF.
 - Virtual: cleared virtual supply weighted by SF.
- Supply of potentially pivotal suppliers
 - Physical: zero
 - Virtual: cleared virtual supply weighted by SF.
- Top three potentially pivotal suppliers identified by maximum effective available capacity.
- Mitigation: Mitigate resource in hour failed test

Application in the hour ahead scheduling process

Same as in day ahead with following differences

- No virtual bids.
- Supply of fringe competitive suppliers
 - Physical: maximum output resource could ramp to in 15-minute interval from last dispatch.
- Supply of potentially pivotal suppliers
 - Physical: lowest output resource could ramp to in 15-minute interval from last dispatch.
- Top three potentially pivotal suppliers identified by maximum ramp range = maximum capacity that could be withheld.
- Mitigation: Mitigate if failed test in any of four 15-minute HASP intervals. Mitigation is hourly for HASP up to RTD.

Application for the real time dispatch market

Same as in HASP with following differences

- Uses output from last available RTPD run (not from an all constraints run).
- Mitigation: Mitigate if failed test in applicable 15-minute interval of RTPD run. Mitigation is balance of hour
 - Mitigation begins first RTD interval corresponding to the RTPD interval where resource first failed test.
 - Bid mitigated from that point to end of hour.

Questions / Comments ???