California ISO
Shaping a Renewed Future

Briefing on Load Granularity Refinements

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Background

- Original MRTU decision required the ISO to increase number of LAPs in Release 2
- 2010: the ISO and MSC found price dispersion small, and stakeholders did not support additional LAPs
  - the ISO requested to delay disaggregating LAPs and FERC agreed
- 2013: ISO compared S-LAP to D-LAP prices,
  - again found small differences and customers still not in favor of disaggregating LAPs
  - In February 2014 the ISO filed for a waiver of the requirement for disaggregation

FERC rejected the ISO's request

FERC rejected the waiver request based on:

- Waiver request was not limited in scope
- Waiver request was insufficiently supported
  - How would price differences affect market outcomes?
  - Why are average price differences the correct metric?
  - "Given that more disaggregation theoretically should produce better price signals, we find the fact that the CAISO significantly limited the level of disaggregation examined – and left SDG&E out of the Pricing Study entirely – renders the Pricing Study inconclusive."
  - More information needed on how disaggregation would impact Congestion Revenue Rights (CRRs), transmission investment incentives, and estimates of cost of implementation

FERC gave the ISO an extension of 1 year from the date of decision (June 3, 2014) to disaggregate or seek further relief

- FERC further instructed that any pricing study used to support a new request must include:
  - Detailed description of underlying data
  - Analysis of a reasonable range of different alternate levels of disaggregation
  - Focused discussions on areas with large price differences
  - Properly supported estimates of implementation costs for the different levels of disaggregation
  - Analysis of the entire CAISO footprint (including SDG&E)

What do other ISOs do?

ISO	Load Pricing
NYISO	11 Load Pricing Zones
ISO-NE	8 Internal Load Pricing Zones, 7 Intertie
PJM	Nodal load pricing – custom price for each LSE
MISO	CPnode Commercial Participant Node, aggregation of EPnodes, which are single bus nodes where LMP is calculated
ERCOT	Settlement Points

Topics for the MSC Input

- Pricing Study Design
  - Look at Nodal prices
  - Time Period: 2009-2014
  - Focus on day-ahead prices
  - Will consider on-peak/off-peak, seasonal, and changes over time

Topics for the MSC Input cont.

- Pricing Study Structure?
  - Use structure of MSC study from 2010
  - Regress nodal prices on DLAP price

    $P(I,h,k) = \alpha_j + \beta_j * PLAP(h,k) + \varepsilon_j$

    Where:

    $P(I,h,k)$ = price at node I in LAP k during hour h

    $PLAP(h,k)$ = DLAP price for LAP k during hour h
  - Examine α_j and β_j for spatial dispersion

Topics for the MSC Input cont.

- Potential Disaggregation Alternatives
  - The existing DLAPs -- status quo
  - Full nodal prices for demand
    - Might not require nodal bidding
    - Could settle at LSE-specific price like PJM
  - Small increase in number of DLAPs
  - Optimized level of LAPs
    - Examining existing congestion to get something like new SLAPs based on local resource adequacy areas,
    - Use the historical data to construct LAPs which minimize the pricing errors

Anticipated Schedule for Load Granularity Stakeholder Initiative

August 2014	MSC Discussion
August 2014	Post Issue Paper
September 2014	Stakeholder Meeting & Comments
September 2014	Start Study
December 2014	Post Study and Draft Proposal
January 2015	Stakeholder meeting & Comments
January 2015	MSC Comments
March 2015	Board Approval
June 2015	FERC Filing