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## Potential Change in Rule Limiting Bids Considered in IFM

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# Overview

- Under current ISO Tariff, pool of resources considered in IFM is currently limited to resources that clear the All Constraints (AC) run of the pre-IFM Local Market Power Mitigation (LMPM) process. (Section 31.2)
- Current rule initially adopted to ensure that LMPM was not undermined by dispatch of relatively high-priced unmitigated bids.
  - Could occur due to differences in supply and demand bids used in AC run vs. IFM
- ISO is considering pros and cons of removing this limitation based on market experience.

# Methodology

- DMM re-ran IFM with and without the pool of resources considered in IFM limited to resources dispatched in AC run of LMPPM process.
- Analysis based on sample of 13 days and is representative of IFM conditions in April-May:
  - MW clearing IFM = 95-100% of ISO peak forecast
  - Sample selection limited by ability to reproduce IFM results for some days due to modifications made to IFM software/systems.
- Metrics used to compare/assess results:
  - Avg. LMPs by LAP
  - Total IFM Costs (Energy Costs + A/S + BCR)
  - Change in unit commitments
  - IFM Execution times
  - MIP gap

# Results of Analysis - Price & Cost Impacts

- IFM Cost Impacts
  - Total IFM costs decreased slightly in 7 of 13 days (- .1 to -.9%)
  - Total IFM costs increased slightly in 6 of 13 days (+.1 to +2.1%)
  - Overall costs increased slightly (+.17%) due to relatively high increase in cost on one day (2.1%)
- Reasons for decrease in cost:
  - Broader pool of resources
  - More optimal substitution of energy vs., A/S due to availability of additional resources
- Reasons for increase in cost:
  - Broader pool of resources creates different “search path”, which can result in higher costs at point that minimum MIP Gap requirements are met.

## Results of Analysis – Other Impacts

- Unit Commitment
  - Minimal impact on units committed/not committed in IFM
  - ~.5 additional thermal units committed per day
- IFM Solution Times
  - Increased by 30 to 50% (10 minutes to 15)
  - Maximum increases of 67% (from 18 minutes to 30 minutes)
  - Increased solution times could negatively impact market performance by limiting option of re-running IFM when problems occur

# Results of Analysis

Trade Date	Peak CAISO Forecast (MW)	Peak Demand Clearing IFM (MW)	Peak IFM vs Forecast (%)	Change in Avg. LAP LMPs with All Resources in IFM Pool			Change in Avg. IFM Cost (\$/MWh)	Additional Units Committed in IFM (Not Dispatched in MPM)		Additional Units Not Committed in IFM (Dispatched in MPM)	
				PGAE LAP	SCE LAP	SDGE LAP		# Units	MWh Energy	#Units	MWh Energy
4/11/2009	24,967	24,960	-0.03%	-0.22%	-0.24%	-0.24%	-0.23%	0	0	0	0
4/19/2009	28,989	27,600	-4.79%	0.24%	0.10%	-0.56%	-0.28%	1	508	1	148
4/20/2009	36,273	33,859	-6.65%	2.59%	1.61%	2.17%	2.12%	0	0	4	713
4/23/2009	28,837	28,817	-0.07%	0.55%	0.05%	0.68%	0.43%	0	0	0	0
4/25/2009	25,941	25,351	-2.27%	-0.75%	-0.74%	-0.70%	0.08%	0	0	1	366
4/26/2009	25,627	26,130	1.96%	0.62%	0.61%	0.58%	0.36%	0	0	0	0
5/5/2009	31,321	29,776	-4.93%	0.25%	0.24%	0.24%	0.34%	1	120	0	0
5/10/2009	29,016	28,774	-0.83%	-0.18%	-0.27%	-0.27%	-0.30%	0	0	0	0
5/14/2009	31,406	31,138	-0.85%	-0.10%	-0.13%	-0.14%	-0.09%	0	0	0	0
5/26/2009	32,664	31,546	-3.42%	-0.02%	-0.04%	-0.05%	-0.06%	1	5	0	0
5/28/2009	34,374	33,214	-3.37%	-1.59%	-0.18%	-0.13%	-0.87%	0	0	0	0
5/30/2009	28,624	28,211	-1.44%	-0.14%	-0.22%	-0.15%	-0.12%	1	20	1	573
5/31/2009	28,189	28,012	-0.63%	1.20%	-0.54%	-0.62%	0.66%	2	1,178	0	0
<b>Avg.</b>	<b>29,710</b>	<b>29,030</b>	<b>-2.23%</b>	<b>0.20%</b>	<b>0.04%</b>	<b>0.10%</b>	<b>0.17%</b>	<b>0.5</b>	<b>136</b>	<b>0.6</b>	<b>142</b>

Green = Decrease in IFM costs  
 Yellow = Increase in IFM costs

# Options

## 1. Continue to monitor market impacts

- No change in current market rule
- Continue to assess impacts under different market conditions

## 2. Modify tariff/BPM to provide flexibility to respond to different market conditions. Specifically:

- Default setting is to limit pool of resources to those clearing MPM
- Allow operators the option of relaxing the rule if it is producing anomalous operational or market results in the DAM

## 3. Modify tariff to require consideration of all bids in IFM

## Next Steps

- June 24 – Due date for stakeholder comments and recommendations on the three options. Please submit to Eric Hildebrandt ([ehildebrandt@caiso.com](mailto:ehildebrandt@caiso.com))
- July 2 – ISO will issue a draft recommendation on this issue.
- July 7 – ISO will hold a stakeholder conference call to discuss draft recommendation.
- July 20-21 – ISO may, depending on option selected, seek ISO Board approval of a tariff modification.