



California ISO

Briefing on system market power assessment

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Board of Governors Meeting

General Session

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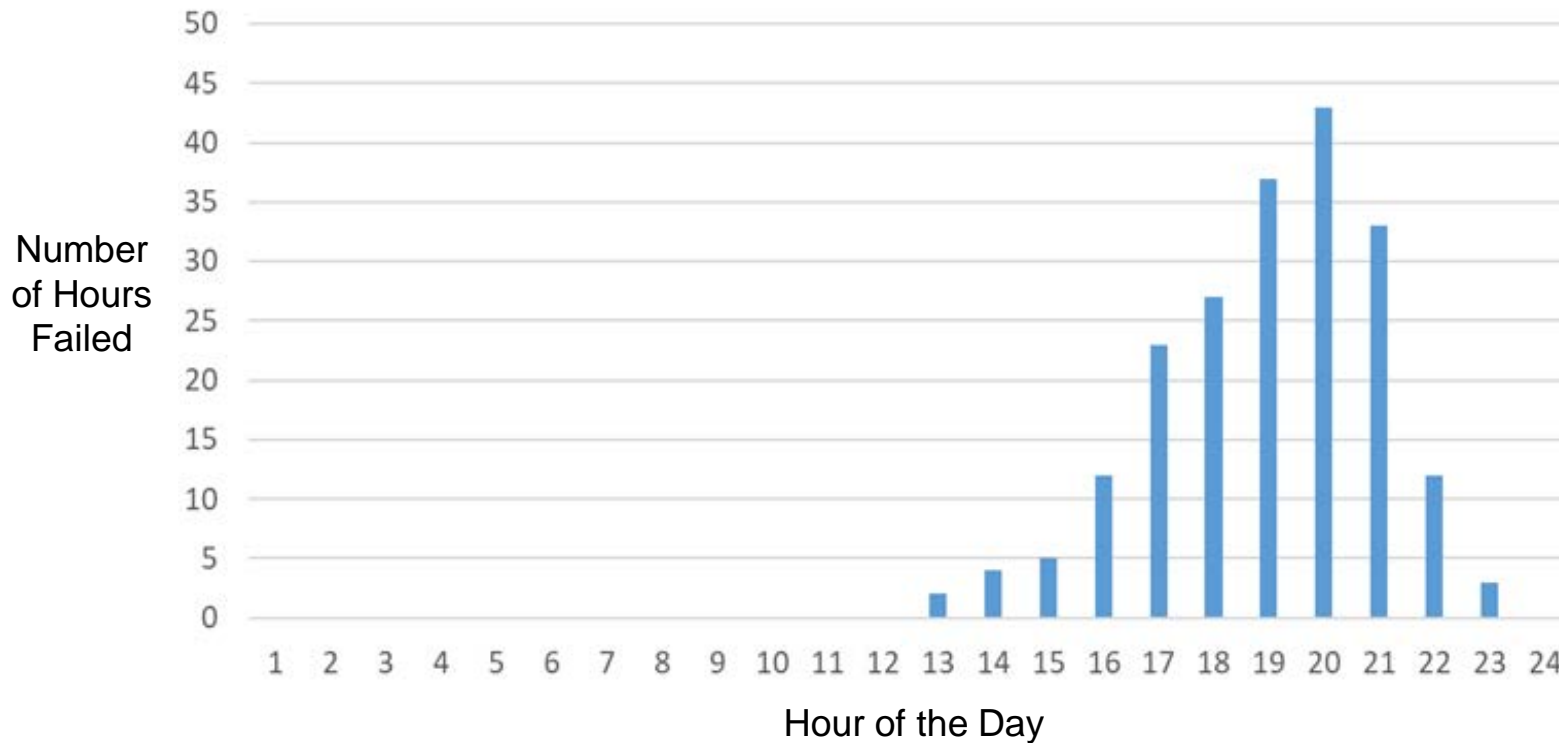
Background

- The ISO balancing authority area has in the past been assumed to be competitive at a system-level
- Management committed to analyzing system-level market competitiveness and addressing identified issues after DMM raised concerns in its 2017 annual report
- Management recently published analysis results and has begun discussing the appropriate next steps with stakeholders and the Market Surveillance Committee

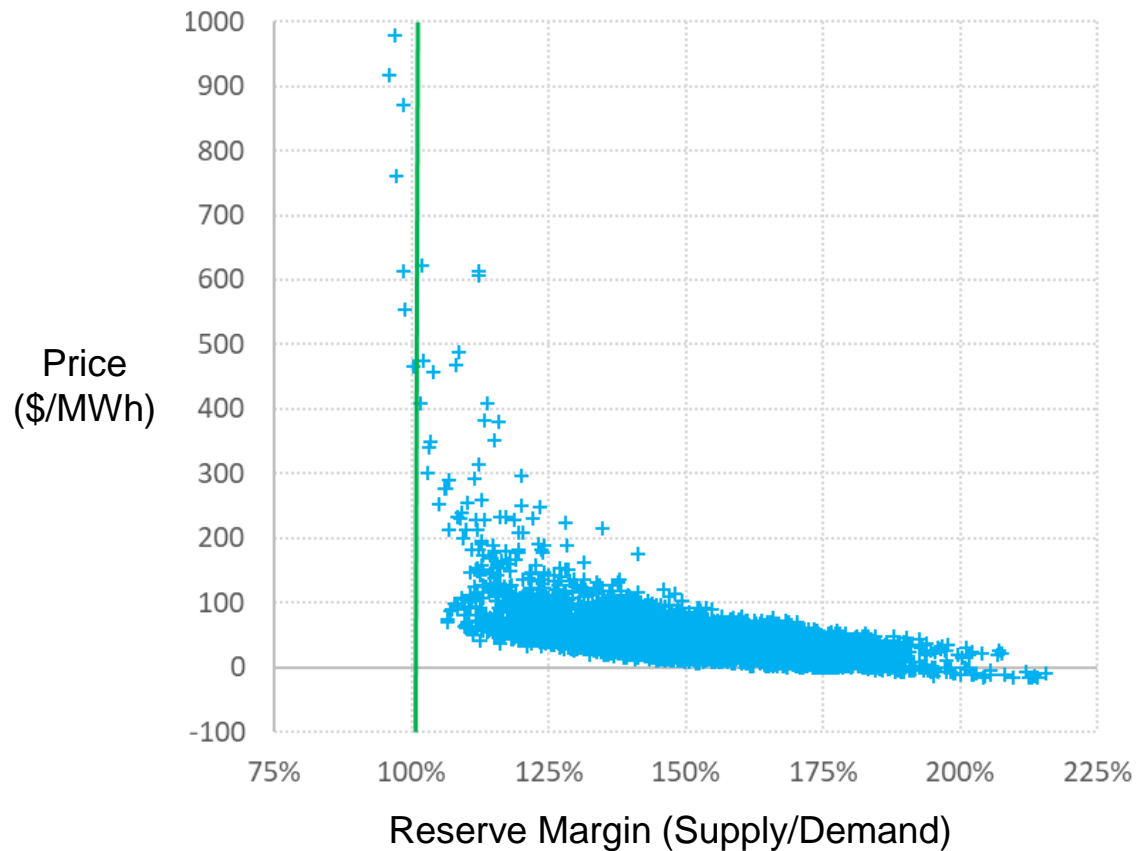
ISO's analysis shows a relatively small number of hours that the ISO balancing area is not competitive at the system level.

- Analysis uses “residual supply index” test to evaluate competitiveness
 - Evaluates whether load can be met without the three largest suppliers
- The ISO balancing area failed the test at the system level in about 2% of hours in 2018
- These failures generally occur during the net load peak hours when supply is tight
- Department of Monitoring metrics show increased price-cost markup in these same peak hours

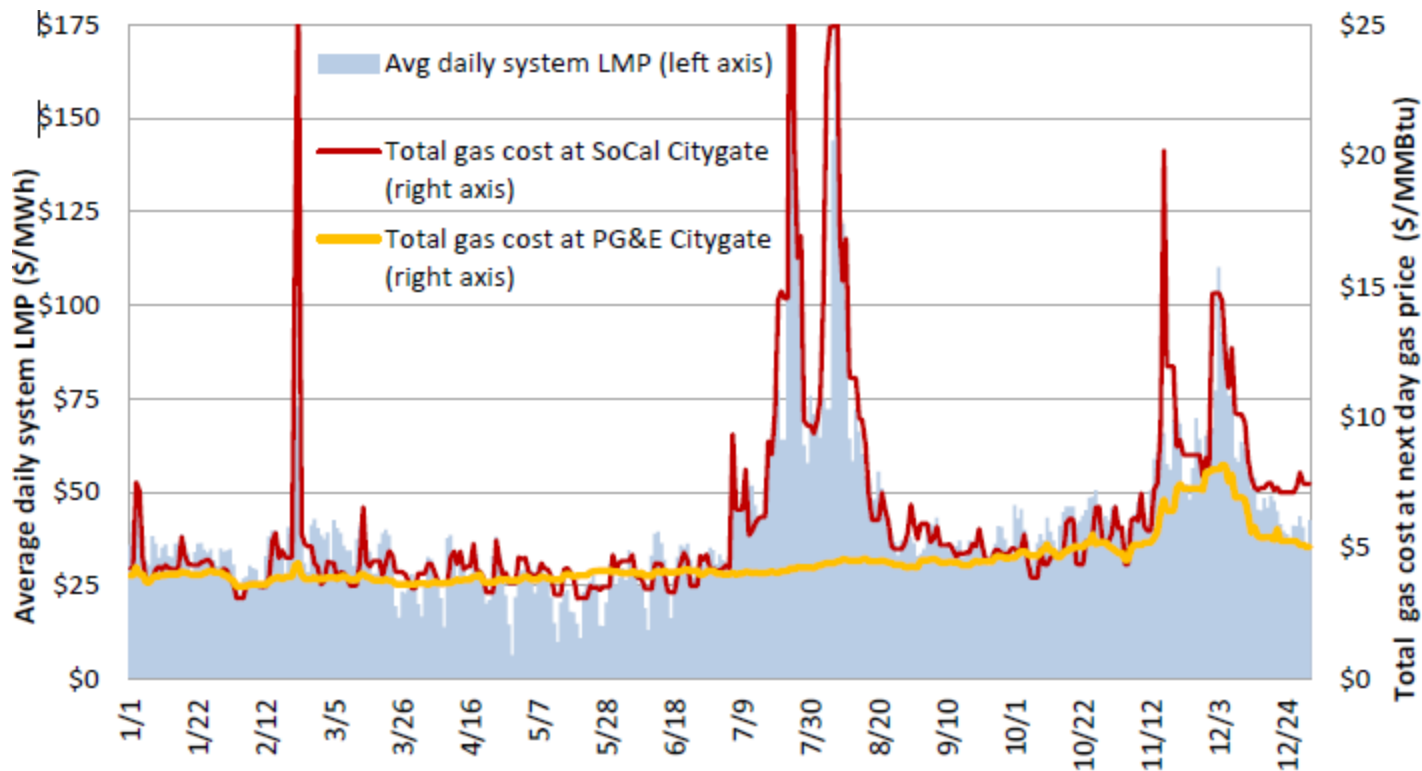
Residual supply index test failures mostly occur in the net load peak hours as solar output decreases.



High ISO market prices typically occur when supply is tight.



High day-ahead market prices occur when natural gas prices are high.



DMM Annual Report on Market Issues & Performance, 2018

A number of measures could address increased price-cost markup during times of tight supply.

- Load-serving entity forward energy contracting
 - Hedges load, reduces incentives for supply to bid high
- Bilateral procurement of additional resources to increase supply during net load peak
 - Additional energy storage could add supply during net load peak as solar output decreases
- Enhanced ISO market scarcity pricing provisions
- System-level market power mitigation in ISO market
 - Would address increased price-cost markups but could reduce import supply
 - Difficult to estimate costs of import supply

Next steps

- Continue discussions on the appropriate response with stakeholders and Market Surveillance Committee
 - July 15 stakeholder working group meeting
 - August 19 Market Surveillance Committee meeting
- Plan to brief the Board of Governors on determination of appropriate measures to address system market power concerns
 - Market Surveillance Committee will provide a written opinion on the appropriate response
 - Tentatively planned for November