



California ISO
Shaping a Renewed Future

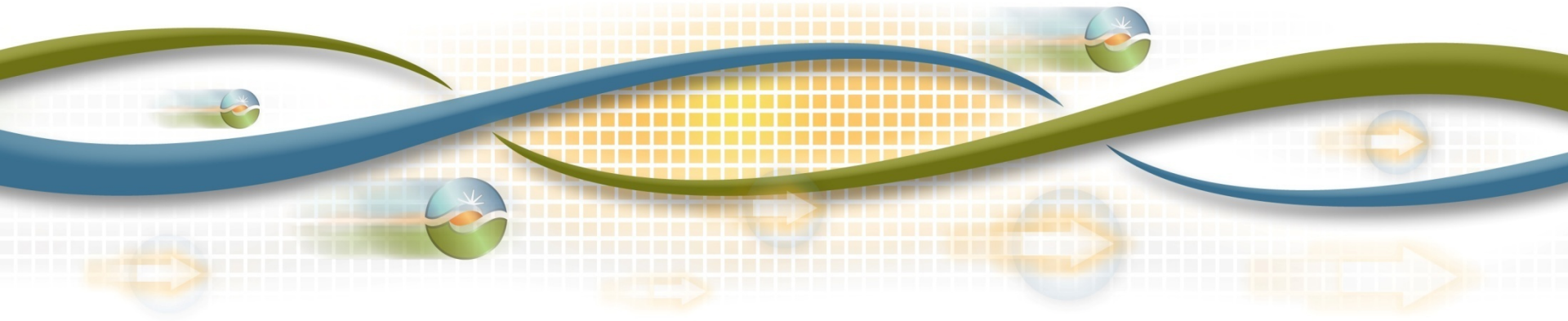
Briefing on performance evaluation of transmission constraint relaxation parameter revision

Nan Liu

Manager, Market Development and Analysis

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Background

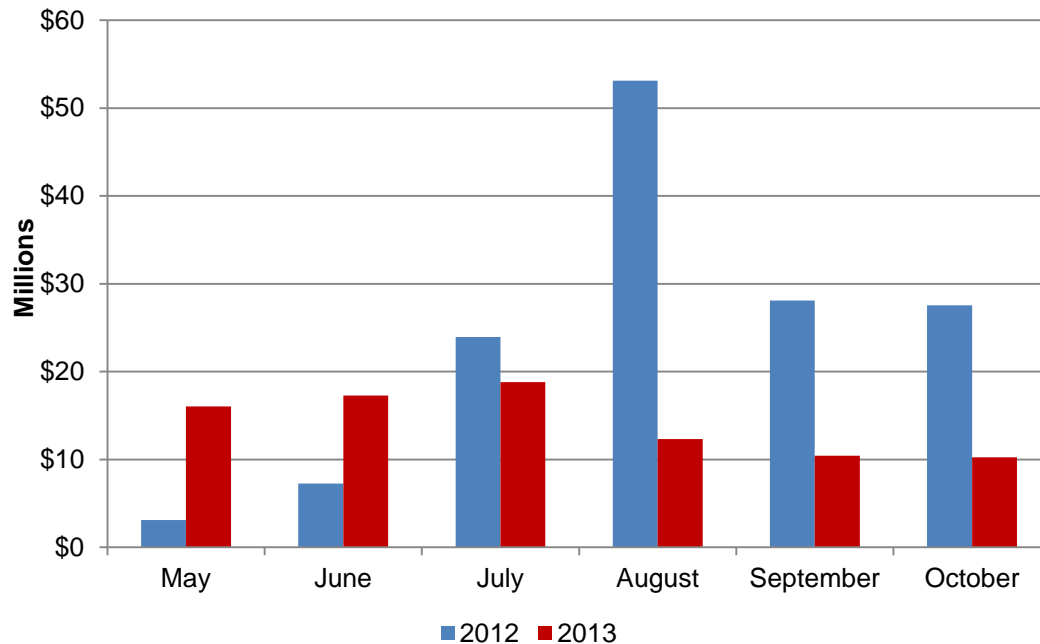
- Transmission constraint relaxation parameter establishes reasonable limit on the extent to which **effective** bids are used to resolve congestion.
- Increase in real-time congestion offset costs in Q3 of 2012 triggered evaluation of the relaxation parameter and other factors.
- New transmission relaxation parameter for real-time market scheduling run approved by the Board on December 14, 2012.
- Parameter lowered from \$5000 to \$1500 on May 10, 2013.
- Assessment is based on market results from May to September 2013.

Market impact assessment focused on the following areas:

- Real-time congestion offset cost;
- Marginal cost for relaxing transmission constraints in market runs; and
- Market flows and use of effective market bids to resolve congestion.

Real-time congestion offset cost

**Monthly Real-Time Congestion Offset Cost
Between 2012 and 2013 May to October**

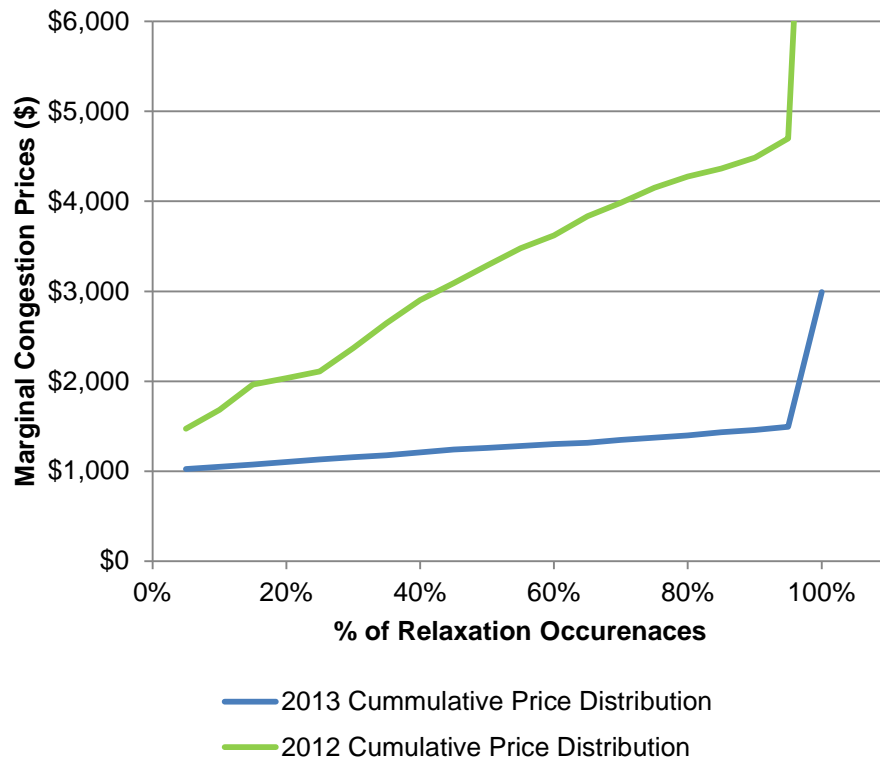


Over the 6-month period from May to October:

- Congestion offset costs ranged from \$10 to \$20 million dollars per month.
- Congestion offset costs decreased 39.5% from \$146 million in 2012 to \$85 million in 2013.
- Relaxation parameter is one of a variety of factors that impact the real-time congestion offset cost.

Marginal cost for relaxing transmission constraints in market runs

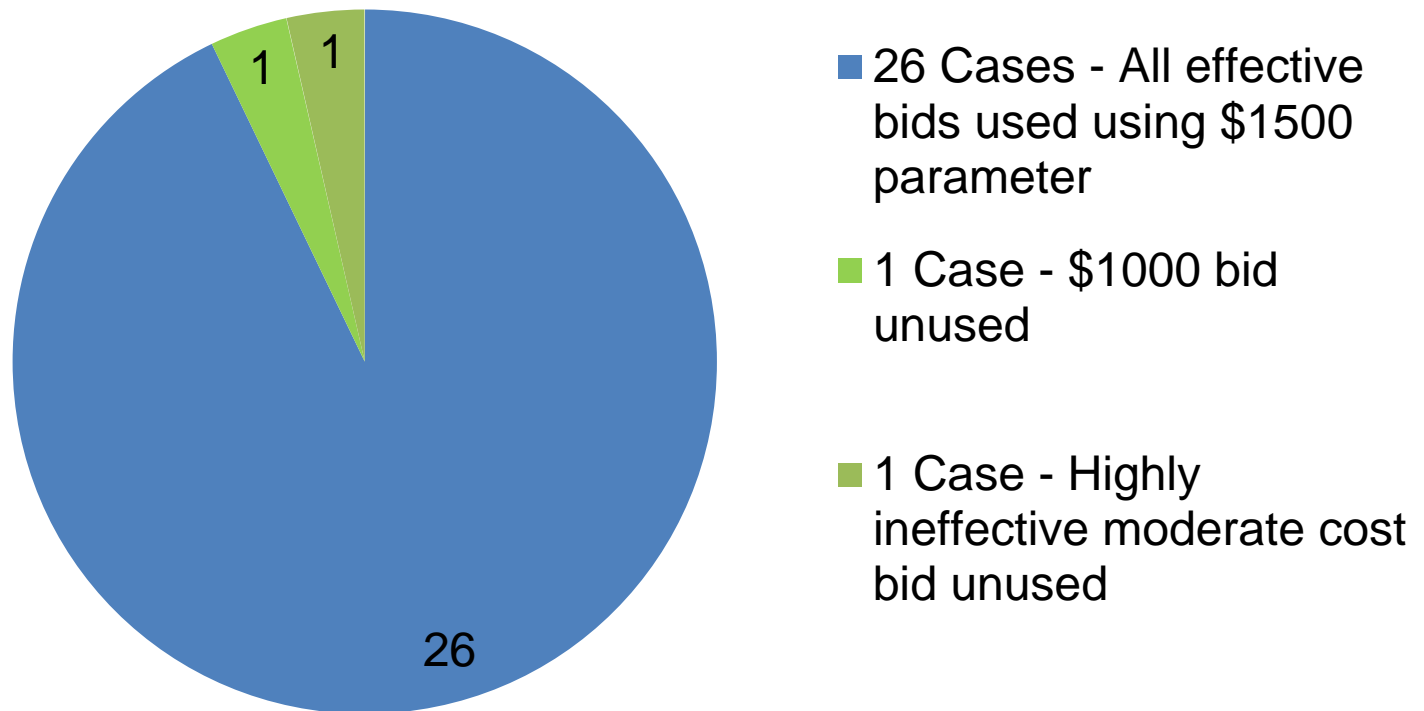
Distribution of marginal prices of relaxed constraint



- As expected, in most cases where constraint is relaxed at marginal price greater than bid cap, the marginal cost of congestion remains below \$1500 parameter.
- Marginal congestion costs lower in 2012 than 2013.
- In 12 out of 5163 real time instances in the constraints were relaxed, marginal congestion prices were above \$1500 due to simultaneous constraints being relaxed.

Assessed \$1500 parameter to determine if all cost effective bids were being used.

28 Cases re-run replacing \$1500 parameter with \$5000 parameter



Observations and conclusions

- Parameter reduction was successful in reducing ineffective congestion.
- Congestion offset costs were reduced.
- There was minimal risk of having forgone dispatch of effective bids to lower congestion.

The ISO continues to work on underlying causes to further reduce the real-time congestion offset cost.