

Decision on flexible ramping constraint relaxation parameter

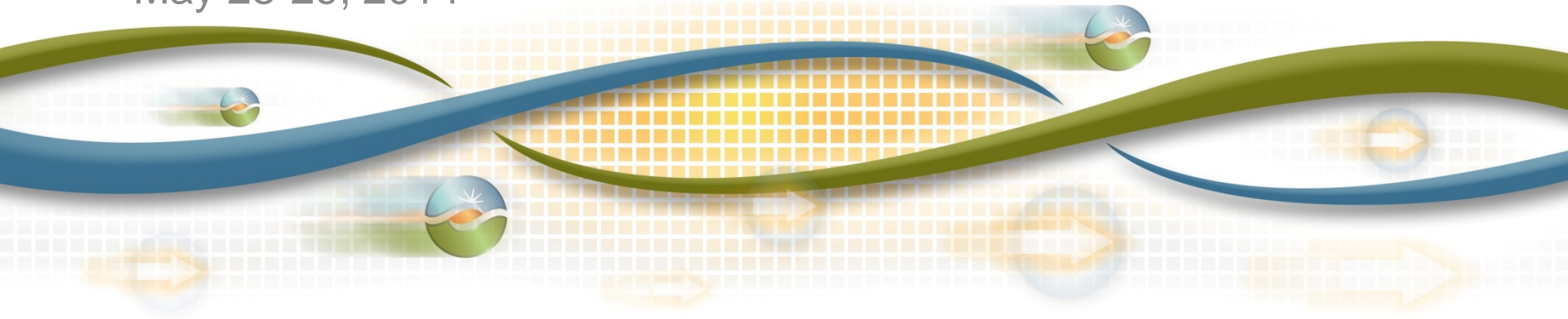
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Board of Governors Meeting

General Session

May 28-29, 2014



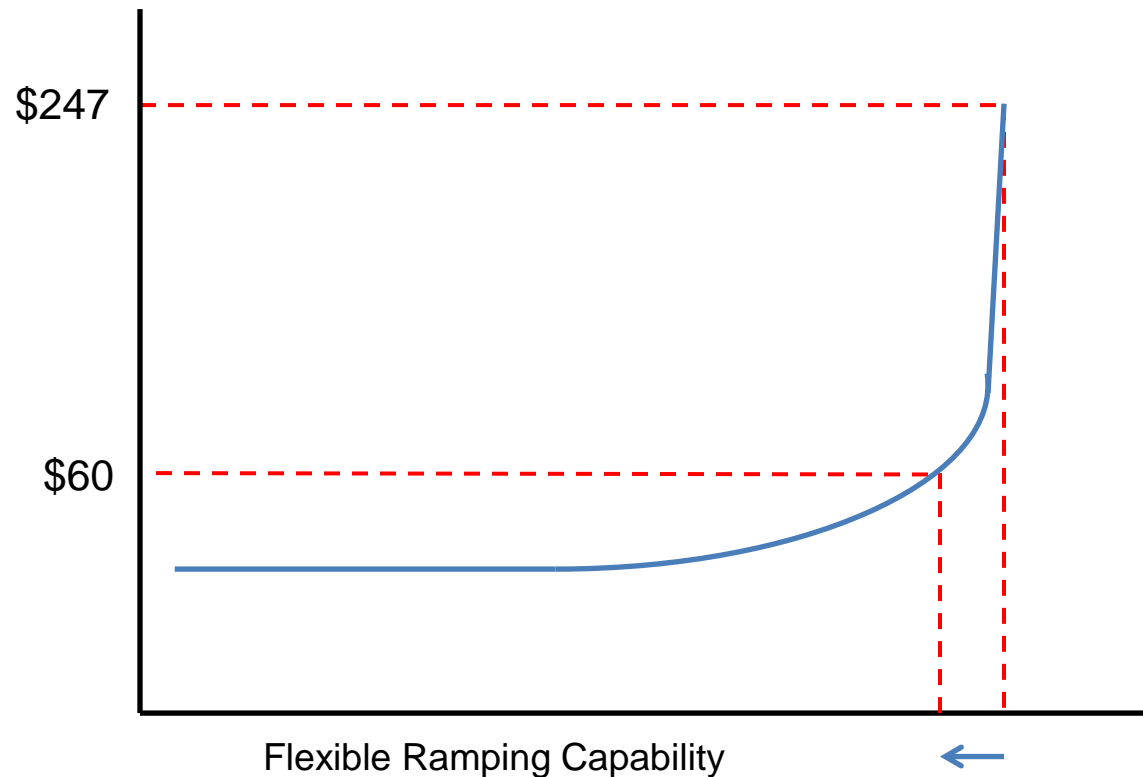
Flexible ramping constraint was implemented in December 2011 to address reliability needs.

- Constraint ensures upward ramping capability to meet projected system conditions caused by variations in load and variable energy resources.
- Additional ramping capability provided through:
 - Committing additional resources, and
 - Out-of-merit dispatches to position units
- Relaxation parameter applies when flexible ramping constraint cannot be met.

Flexible ramping constraint can cause price divergence between the new 15-minute market and 5-minute dispatch.

- Prior to implementation of FERC Order 764 market design the real time unit commitment process produced advisory energy schedules and prices.
- Under FERC Order 764 market design, the new 15-minute market settles resource schedules at prices determined by the real-time unit commitment process.
- Flexible ramping constraint can inefficiently raise 15-minute market prices when additional ramping is secured through out-of-merit positioning of resources.

Concern can be addressed by changing the flexible ramping constraint relaxation parameter from \$247 to \$60.



Stakeholders generally support lowering the relaxation parameter.

- Support price convergence between the day-ahead market, 15-minute market and 5-minute dispatch
- Some concerns over decreased compensation to resources
- Due to impact on compensation and 15-minute price appropriate to include relaxation parameter in tariff

Management recommends the Board approve the proposed flexible ramping constraint relaxation parameter.

- The flexible ramping constraint ensures sufficient upward ramping capability to reliably manage the grid.
- Setting the relaxation parameter to \$60 provides the reliability benefits without unduly impacting 15-minute market prices.
- Flexible ramping product, to be implemented in 2015, will fully resolve issue through consistent implementation of price impacts in the 15-minute market and 5-minute dispatch.