Energy and Reserve Pricing & Interchange Volatility Solutions

Lisa Morelli

September 18, 2014

The proposed Energy and Reserve Pricing Solution is comprised of three parts

- Day Ahead resource commitment changes

- Day Ahead Scheduling Reserve requirement and capability changes

- Synchronized Reserve and Primary Reserve requirement changes

Proposed DA Resource Commitment Changes

Commit long lead resources scheduled for the next operating day in the DA market based on the schedule dictated by PJM operations

- Trigger: hot weather alert, cold weather alert or more significant emergency procedures AND long lead resources have been scheduled and are still needed

- Daily checkpoint at 10am to decide which long lead time resources are still needed

Why?

- If resources scheduled outside the DAM are not committed in the DAM clearing, there is still a mismatch between DA and RT in the resources meeting system needs and consequently those setting market clearing prices.

  - This is equivalent to not capturing operator actions in LMP – but this is DA LMP rather than RT LMP

Increase the Day Ahead Scheduling Reserve requirement on "peak" days by the hourly difference in submitted fixed demand and forecasted RT load, plus any additionally scheduled reserves

- Trigger: hot weather alert, cold weather alert or more significant emergency procedures

Why?

- Increasing the DASR requirement by the expected difference in load ensures that we schedule enough capacity to meet RT Load while also scheduling enough reserves to meet the average LFE and FOR and our normal 10-minute reserve requirements
  - Currently LFE and FOR make up the 6.27% DASR requirement

Cost allocation of additional DASR quantity is still under discussion

Changes to the calculation of eligible DASR capability

- Clear DASR MW up to resources' economic max rather than emergency max
- Adjust capability considered from offline units to recognize startup and notification times
- More accurately reflects the dispatch capability of resources if they are needed in real-time

These changes will apply all the time, rather than just during peak conditions
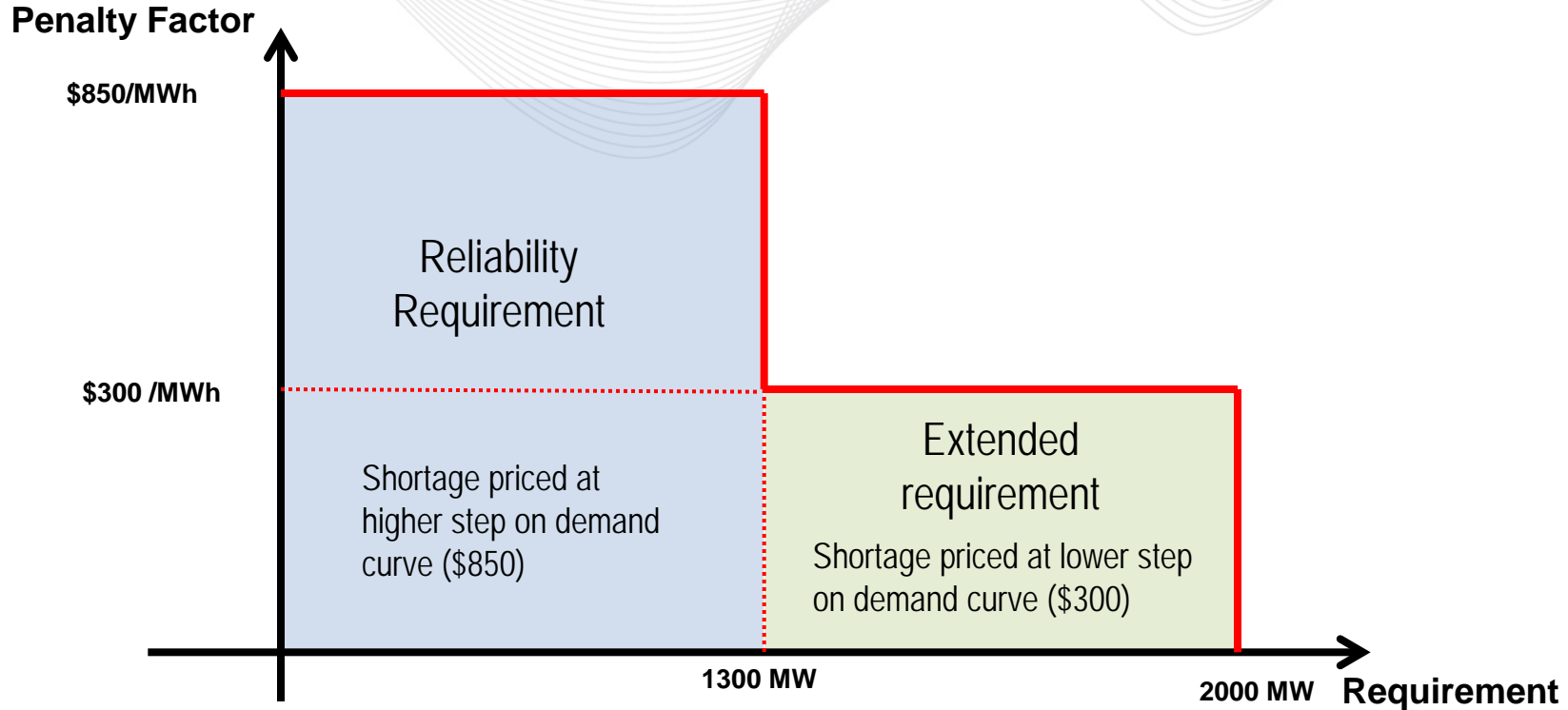
Proposed Synch and Primary Reserve Changes

The proposed real-time reserve changes are a more flexible version of the short-term solution

	Short-term Solution	Long-term Solution
Trigger	Emergency conditions plus significant additional reserves have been scheduled	Emergency conditions plus additional reserves were committed after the close of the DA market and RAC run
Increase in SR and PR requirements by:	1300 MW	Sum of additionally scheduled capacity
Shortage Pricing	Yes – when short the extended requirement	Yes – create second, lower step on the SR and PR demand curves

Two Step Demand Curve Example

Penalty Factor

$850/MWh

$300 /MWh

Reliability Requirement

Shortage priced at higher step on demand curve ($850)

Extended requirement

Shortage priced at lower step on demand curve ($300)

1300 MW

2000 MW

Requirement

Implement an hourly interchange cap for the forecasted peak hour(s) and surrounding hours during emergency conditions

- Only used when operators have made firm resource commitments and anticipated interchange schedules are sufficient to meet projected load for the hour

- Calculated and implemented 1 – 2 hours prior to the operating hour

- Limits spot imports and hourly non-firm point-to-point transactions once net interchange reaches the cap
  - Schedules with firm or network designated transmission service will NOT be limited
  - Spot imports and hourly non-firm PTP transactions submitted prior to implementation of the cap will NOT be limited

- Cap value based on operator expectation plus 700 MW margin

- Energy and Reserve Pricing Solution (DA and RT reserve changes)
  - Winter 2015, with the exception of changes requiring tariff revisions
    - DASR cost allocation and additional lower step on SR / PR demand curves implemented in Spring 2015

- Interchange Volatility Solution
  - Winter 2015 via manual curtailment of transactions violating interchange cap
  - Spring 2015 via automated denial of transactions violating interchange cap at time of submission

- Upcoming ERPIV meetings

Date	Time
Monday, September 29	9:00 am – 12:00 pm

- Voting Timeline

  - October MIC/MRC Vote, November MC Vote

  - Alternatives
    - November MIC / MRC / MC Vote
    - November MIC / MRC Vote, January MC Vote