



# Energy and Reserve Pricing & Interchange Volatility Sub-Group Update

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# Energy & Reserve Pricing Issue Charge Overview

- During peak days, PJM operators may be required to commit additional resources beyond what is needed to meet the load forecast in order to maintain reliability
- These additional commitments create extra reserves on the system, which have the effect of suppressing energy and reserve prices
  - Results in pricing that is not reflective of operator actions or peak conditions
  - Creates additional uplift
- Determine whether enhancements can be made to better capture operator actions during critical days in energy and reserve market clearing prices

Scheduling resources outside the DA market is sometimes needed in order to ensure reliability

Under current rules it can have adverse market impacts

- Diverges DA and RT pricing because resources operating and thus setting price are different
- If not committed in DA, in RT they will displace resources scheduled in the DAM creating CT LOC

## DASR Requirement:

- Increased on “peak” days based on the historic difference between DA cleared demand and actual load in the past 7 days

## Resource Commitment:

- Commit long lead resources scheduled for the next operating day in the DA market based on the schedule dictated by PJM operations
  - Daily checkpoint at 10am to decide which long lead time resources are still needed

## Create new RT Reserve Market to value additional reserve capability

- Only cleared under emergency conditions when additional intraday reserves have been scheduled
- Cleared using 30 minute reserve capability of all resources
- Requirement based on eco min plus 30 minute capability of additionally scheduled units
- Shortage Pricing applied with \$300 penalty factor

The following concerns have been expressed about the new reserve product proposal:

- Complexity of solution vs. infrequent use
- Cost / benefit
- Impact to max energy price (pancaking of additional penalty factor)
- Cost allocation

PJM is developing a more simplified proposal in response to these concerns

The simplified solution is a more flexible version of the short-term solution

- No additional reserve products, settlement, cost allocation
- Increase reserve requirements for existing RT reserve products
  - Only triggered under emergency conditions when additional intraday resources are scheduled
  - MW value is adjusted based on eco max of resources committed as opposed to being a static adder
- No increase to the energy price cap (\$2700 starting June 2015)
  - Add a second, lower step to the existing ORDC for synchronized and primary reserve
    - If short the extended requirement, the lower penalty factor sets the clearing price
    - If short the reliability requirement, the higher penalty factor sets the clearing price

## Timing

- Notification of the potential for increased reserve requirements will be issued day ahead
- Notification of increased requirements will be made as soon as it is determined
  - Includes MW amount and hour(s) to which increase requirements apply
  - Will typically occur one to two hours in advance of the operating hour

## Communication Method

- 'Special notification' message in Emergency Procedures
  - Emergency Procedure message will create an alert in eData
- Message in eMKT upon log in



- Interchange that is significantly in excess of what was expected at the time operators are making intraday resource commitments to meet peak load can have the effect of suppressing energy and reserve prices
  - Results in pricing that is not reflective of operator actions or peak conditions
  - Creates additional uplift
- Interchange volatility can also create reliability challenges
- Determine whether enhancements can be made to transaction scheduling rules to improve system and price stability

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

The interchange cap is calculated based on:

- Operator expectation of interchange for time T at the time the cap is calculated
- Additional margin
  - Set at half of largest unit on the system (700 MW)
  - Allows T-20 interchange to contribute to economically backfilling the loss of a unit or deviation between actual load and forecasted load

The cap will be bounded by the max sustainable interchange from reliability studies

## Timing

- Notification of the potential for an interchange cap will be issued day ahead
- Notification of cap implementation will be made as soon as the cap is determined
  - Includes MW amount and hour(s) to which cap applies
  - Will typically occur one to two hours in advance of the operating hour

## Communication Method

- ExSchedule banner notification plus 'special notification' message in Emergency Procedures
  - Emergency Procedure message will create an alert in eData

Same notification methods will be used if the cap is lifted

- Upcoming ERPIV meetings

Date	Time
Friday, September 5	9:00 am – 11:00 am
Tuesday, September 16	1:00 pm – 4:00 pm
Monday, September 29	9:00 am – 12:00 pm

- October MIC/MRC Vote
- November MC Vote