

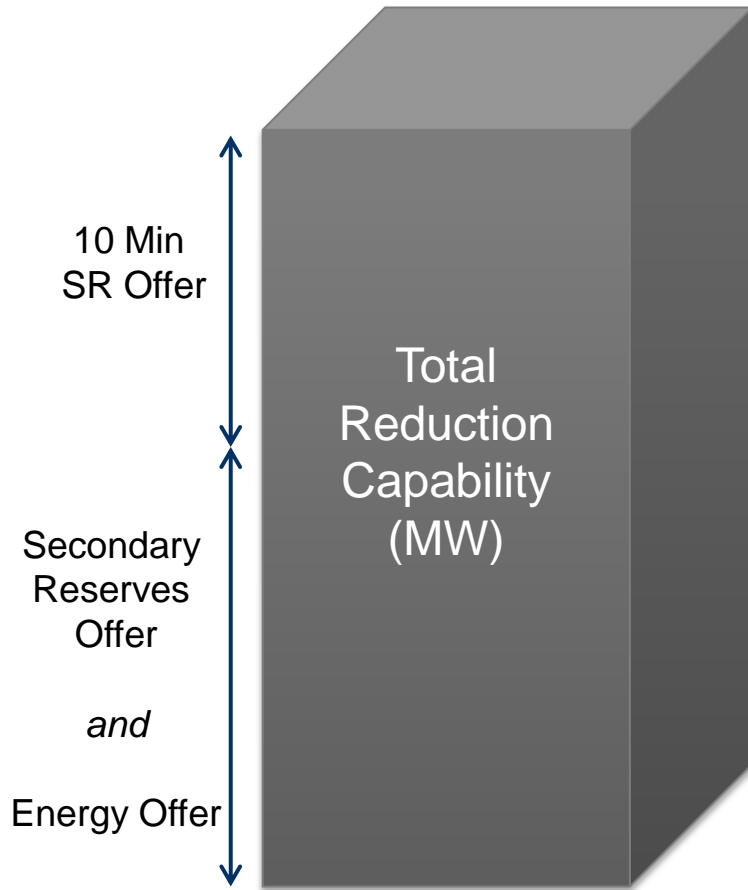
# Demand Resources Participation in 30 Minute Reserves

- 10 minute Synch Reserves adder will change from \$7.50 to the expected value of the penalty
  - Estimated to be \$0.02 for 2018
- DASR offer price will no longer be submitted
- DASR assignment is balanced out with Real Time Secondary Reserve assignment in Settlements
- In order to provide Secondary Reserves, a valid Real Time energy offer must be submitted for the same MW amount

- Secondary Reserves for Demand Resources are the amount of MW that can be reduced within 30 minutes minus the amount of MW that can be reduced in 10 minutes
- Must have an approved economic DR registration
- Need to have one minute meter data available for measurement & verification
- Must be available for Real Time energy in order to be eligible for Secondary Reserves in Real Time
  - Cannot clear total reduction capability in DA energy market
- Must have a lead time less than or equal to 30 minutes

Availability	Offer MW	Offer Price
<ul style="list-style-type: none"> <li>• Must be available for energy in order to be eligible to clear for Secondary Reserves</li> <li>• Reflect availability for Secondary Reserves in Secondary Reserve Offer MW value</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with treatment for Synchronized Reserves, Demand Resources will have the ability to specify an offer MW</li> <li>• Secondary reserves offer MW must be equal to the energy offer MW</li> <li>• Cannot be greater than the total load reduction capability</li> <li>• Offer MW = 0 indicates that resource is unavailable for Secondary Reserves</li> <li>• No must offer requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Secondary Reserve is a cost-based market</li> <li>• No offer margin allowed</li> <li>• Each resource's cost to provide Secondary Reserves is based solely on lost opportunity cost, which for Demand Resources is zero</li> </ul>

- Max of 33% of total 30 Min Reserves can be met with Demand Resources
  - Today, DR cap is 33% for SR and 25% for DASR
- Secondary Reserves Market Clearing:
  - Inflexible DR will be cleared in ASO
    - But may be dispatched for energy by ITSCED
  - Flexible DR will be cleared in RTSCED
- Energy dispatch:
  - Will be evaluated in ITSCED (same as today)
- Any Inflexible Synch Reserve MW cleared in ASO will be honored in any downstream clearing engines



## Ground Rules for Offers:

- MWs offered for 10 min Synchronized Reserves cannot overlap MWs offered for Energy or Secondary Reserves
- Secondary Reserves Offer MW = Energy Offer MW
  - Secondary Reserves Offer is voluntary
  - Same MW are considered between Secondary Reserves and Energy
- Notification time for energy offer must be  $\leq 30$  minutes
- Energy offer schedule must have Market Type = “Both” or “Balancing”
  - Cannot be set to “DayAhead”
  - Indicates that the energy schedule is available for Real Time dispatch

- Cleared Secondary Reserve MW will be paid at the Secondary Reserve MCP
- Any MW dispatched for energy will be paid at the LMP
- Balancing reserve settlements will apply as described at 1/11/2019 meeting
  - Resources can be made whole for net negative buy back that results from PJM's dispatch directions

- Change name to Day-Ahead Secondary Reserves
- No DASR price offer submitted
- Increase cap to 33% from 25%
- Balancing settlements for changes to Secondary Reserve assignment between Day-Ahead and Real Time





# Proposed Change to Emergency DR Offer Price

- From M-11, Section 2.3.3:
  - Emergency and Pre-Emergency Demand Resource emergency or pre-emergency offer price may not exceed the following:
    - o 30 minute lead time: \$1,000/MWh, plus the applicable Primary Reserve Penalty Factor from the first step of the demand curve, minus \$1.00
    - o approved 60 minute lead time: \$1,000/MWh, plus [the applicable Primary Reserve Penalty Factor from the first step of the demand curve divided by 2]; and
    - o approved 120 minute lead time: \$1,100/MWh.
- PJM proposal:
  - Change to a static number that is not dependent on the penalty factor value
  - Emergency and Pre-Emergency max offer price set to:
    - \$1,849/MWh for 30 minute lead time resources
    - \$1,425/MWh for 60 minute lead time resources
    - \$1,100/MWh for 120 minute lead time resources