Reserve Certainty Senior Task Force Proposal

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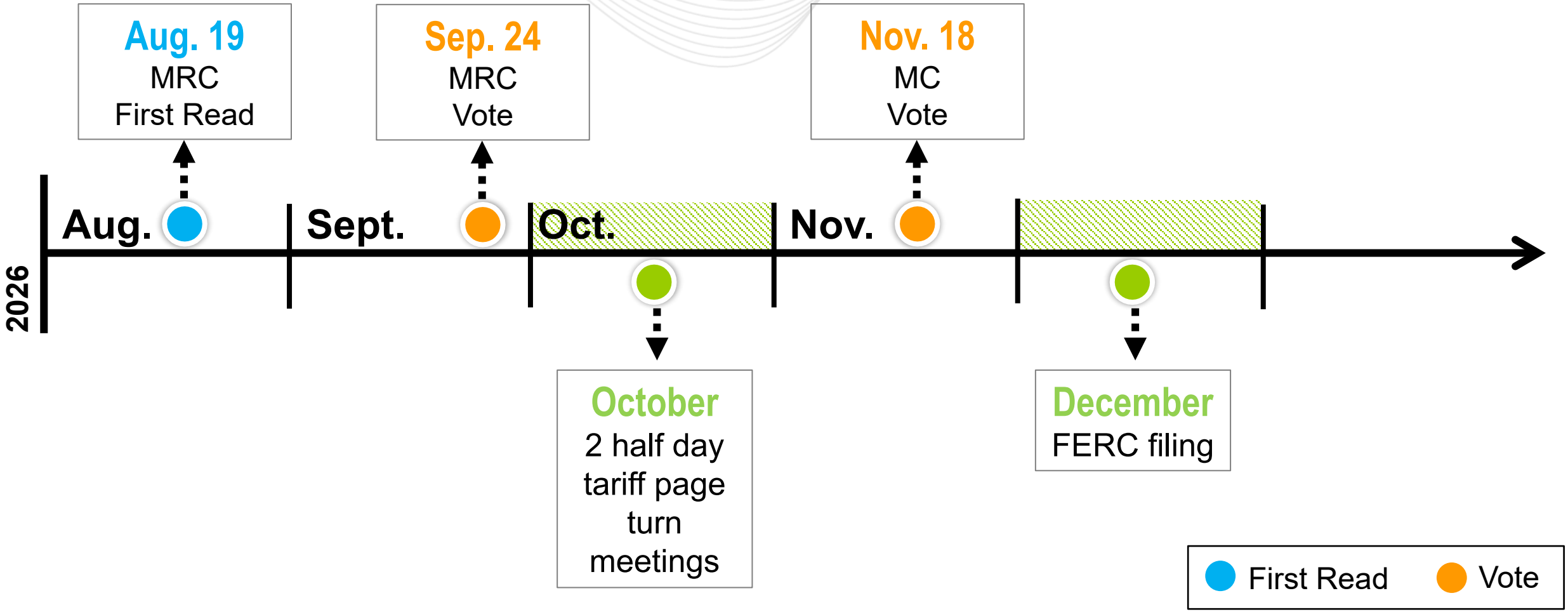
Members Committee

November 18, 2026

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Review/Endorsement Timeline



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Reserve Services included in Proposed Reforms

	Purpose	RTM / DAM	Response Time	Duration	Online Only	Locational
Synchronized Reserve	Contingency recovery	Both	10 min	30 min	☑	☑
10-Min RUR (Up and Down)	Real-time net-load ramp and uncertainty	Both	10 min	60 min	☑	☑
30-Min RUR	Real-time net-load ramp and uncertainty	Both	30 min	4 hr	☑	☑
30-Min Reserves	Replacement for contingency reserves	Both	30 min	4 hr	☒	☑
Day-Ahead Scheduling Reserves	Day-ahead uncertainty	DAM-only	60 min	--	☒	☒

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OA/OATT Redlines

- No substantive changes have been made to the redlines since the page turn meetings held on October 8 & 30
- Some updates have been made for clarity and consistency including:
  - Ensuring consistency of language between sections that explain the same set of business rules
  - Updates to ensure that relevant effective language from other accepted FERC filings (e.g., regulation) are reflected in the redlines
  - Updates to remove remaining references to OATT Schedule 6, which redlines were presented on Oct. 30

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List of Posted Supporting Materials

- Governing Document Redlines:
  - RCSTF Governing Document Redline Overview
  - OA OATT Revisions Reserve Filing – Clean
  - OA OATT Revisions Reserve Filing – Redline
- Proposal Simulation Results:
  - 2025 DA Market Pricing Simulation Without Energy Gap Requirement (PPT and XLSX)

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RCSTF Proposal Summary

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Appendix: Additional Package Details

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Summary of Reforms

- ☑ Introduction of Ramp and Uncertainty Reserve and a risk-based day-ahead reserve service to reflect operational uncertainty and risk
- ☑ Updates to reserve offer rules, consequences for non-performance and reserve cost allocation
- ☑ Changes to PJM's Operating Reserve Demand Curves
- ☑ Unnesting of reserve services to recognize energy endurance needs, particularly when considering energy limited resources
- ☑ New locational design

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Current and Proposed Future Reserve Constructs

CURRENT

Contingency Reserves

- **Synch Reserves (SR)** (online, 10min response) Requirement = MSSC
- **Primary Reserves (PR)** (online or offline, 10min response) Requirement = 1.5*SR
- **Secondary Reserves (SecR)** (online or offline, 30min response) Requirement = 3000

MSSC = Most Severe Single Contingency

FUTURE

Contingency Reserves

- **Synch Reserves (SR)** (online, 10min response) Requirement = MSSC
- **Secondary Reserves (SecR)** (online or offline, 30min response) Requirement = MSSC

Reserves to manage ramp, uncertainty and outage risk

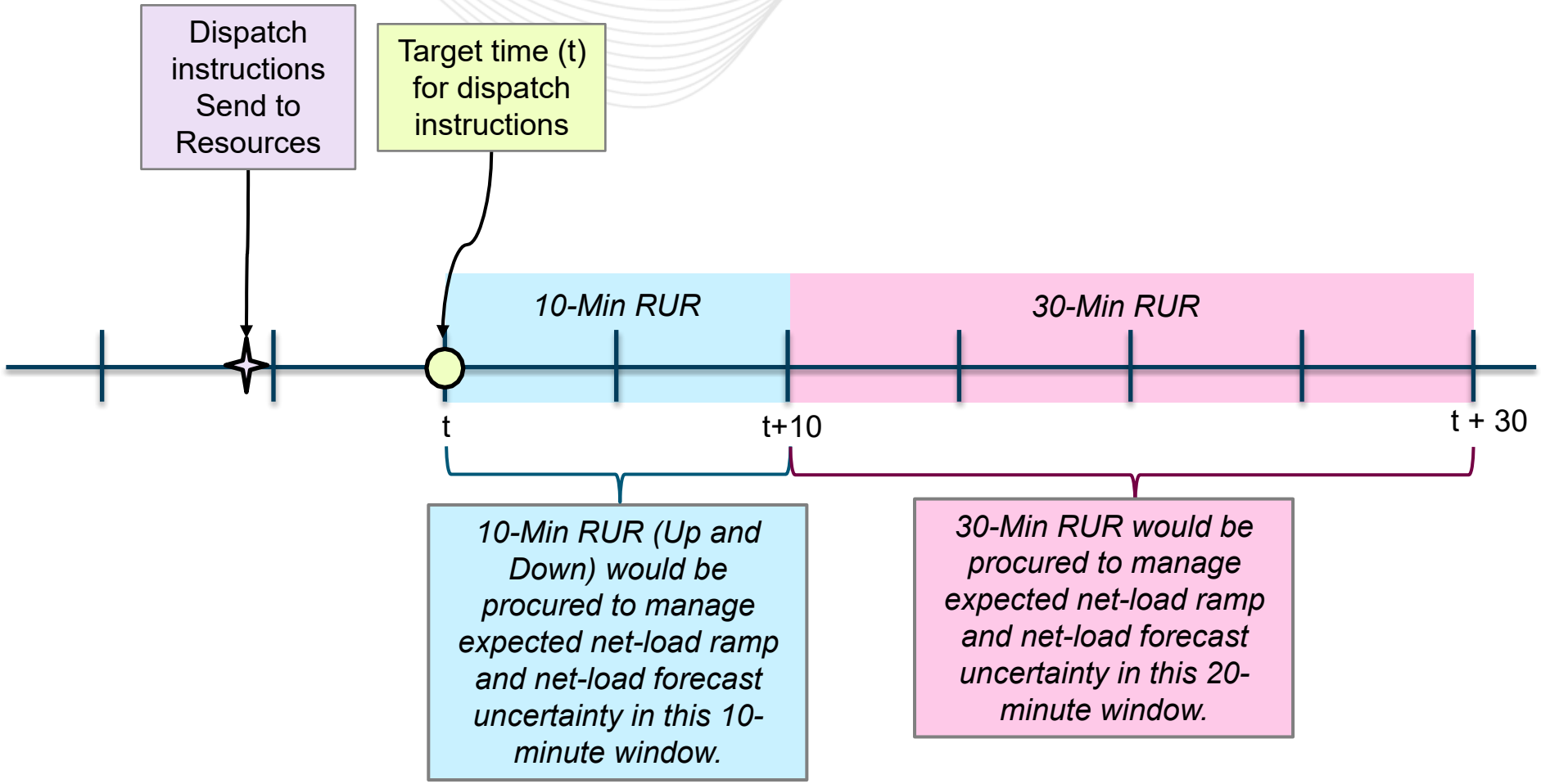
- **Day Ahead Reserves** (online or offline, 60min response) Requirement = DA Uncertainty
- **10 Min Ramp and Uncertainty (RUR)** (online, 10min response) Requirement = max(Net Load Ramp + Uncertainty, 0)
- **30 Min Ramp and Uncertainty (RUR)** (online, 10min response) Requirement = max(Net Load Ramp + Uncertainty, 0)

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Introduction of New Ramp and Uncertainty Reserves

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Ramp and Uncertainty Reserve Timing



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Ramp/Uncertainty Reserves

Performance	Follow PJM's energy dispatch instructions
Soft Offer Caps*	**DAM:** $10/MWh **RTM:** $0/MWh **Cost-based offers above the soft offer cap may be submitted if justified with documentation*
Resource Eligibility	Resources must be online, able to respond (ramp) within the time to response (10 minutes for 10-Min RUR and 30 minutes for 30-Min RUR) and be dispatchable by SCED.
Requirement	Expected Ramp Over Forward Period + Uncertainty
Uncertainty Calculation	Uncertainty = % Load Forecast Uncertainty x Forecasted Load + % Wind Forecast Uncertainty x Forecasted Wind + % Solar Forecast Uncertainty x Forecasted Solar

Product	Uncertainty %		
	Load*	Wind*	Solar*
10-Min RUR (Up and Down)	0.4%	1.9%	3.1%
30-Min RUR	0.6%	2.7%	4.0%

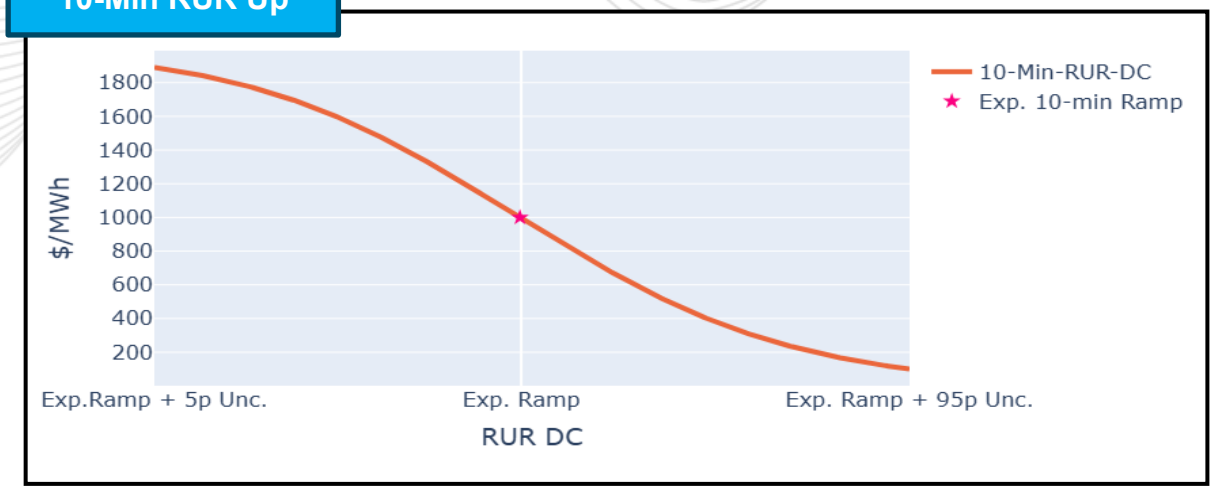
** Uncertainty % based on 24/25 data*

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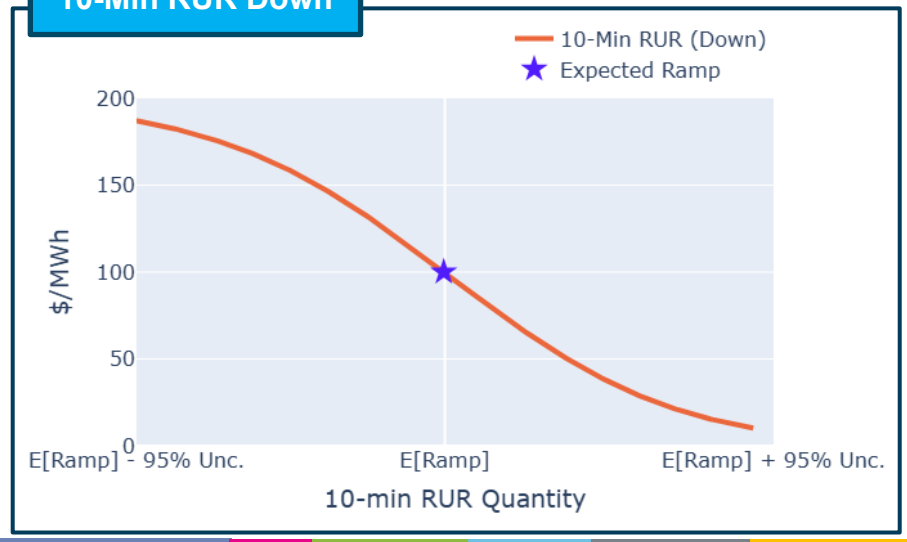
Ramp and Uncertainty Reserve ORDCs

Ramp and Uncertainty Reserve ORDCs would be anchored at the point of expected net-load ramp and shift based on that point. For example, at times of down ramping, RUR Up would only be procured based on the tail to the left of this point.

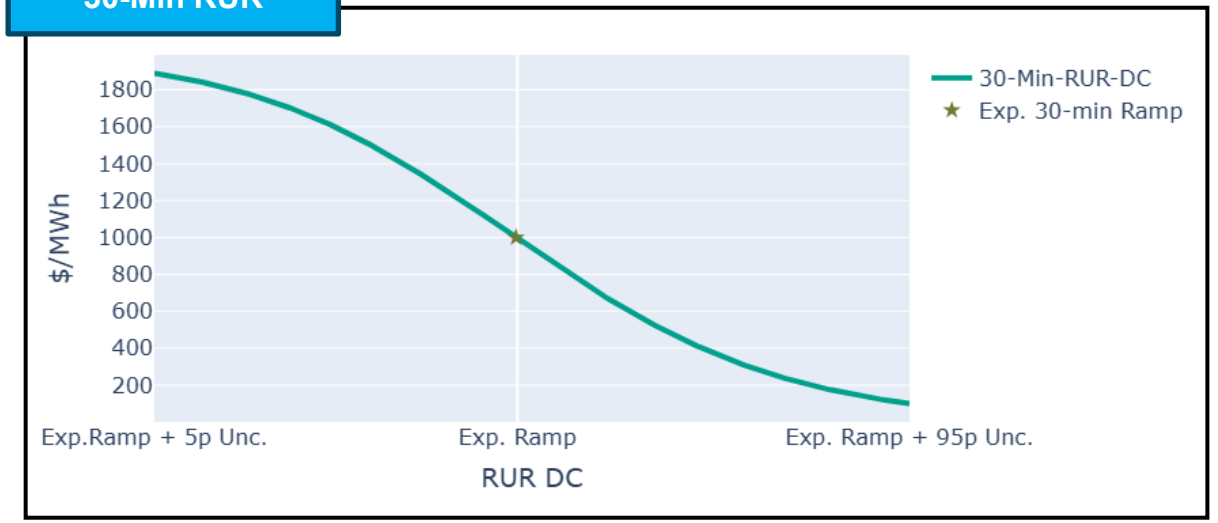
10-Min RUR Up



10-Min RUR Down



30-Min RUR



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Updates to Contingency Reserves

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Synchronized Reserves

Performance	Deploy all reserves during Synchronized Reserve Events
Soft Offer Caps*	**DAM:** $10/MWh + Penalty Risk **RTM:** $10/MWh + Penalty Risk
ORDC	A single step at $2,100/MWh
Resource Eligibility	Resources must be online and able to fully deploy within 10 minutes. Resources do **not** need to be dispatchable by SCED (e.g., resources in condensing mode and reserves only Demand Response can both provide Synchronized Reserves).
Requirement	The largest contingency x Synchronized Reserve performance factor* *Synchronized Reserve performance factor is based on observed reserve performance during Synchronized Reserve Events and is currently 1.2.*

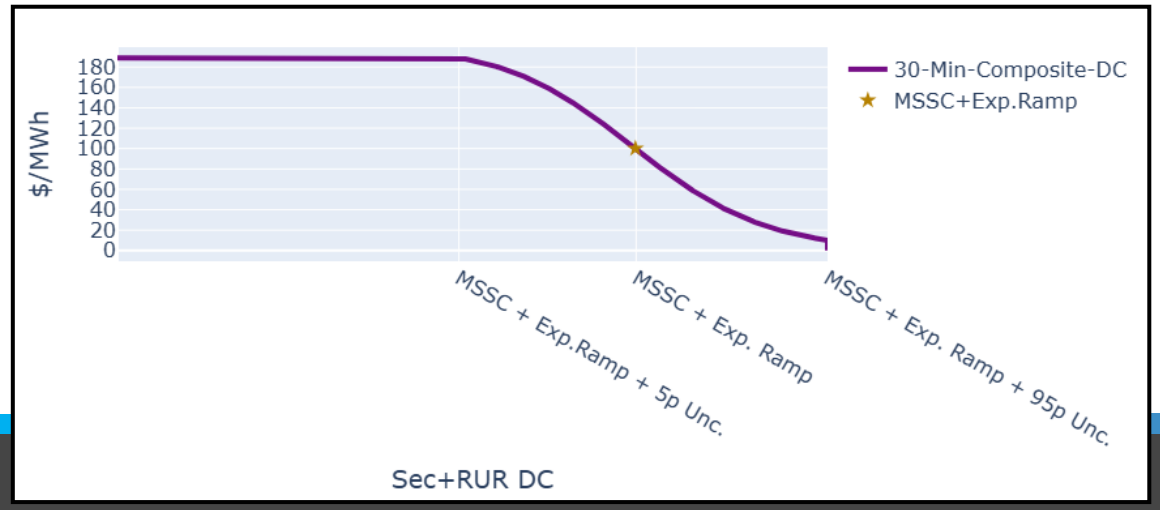
**Cost-based offers above the soft offer cap may be submitted if justified with documentation*

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30-Min Reserves (Secondary Reserves)

Performance	**For offline Secondary Reserves:** consistent with performance
Soft Offer Caps*	**DAM:** $10/MWh **RTM:** $10/MWh
Resource Eligibility	Resources must be able to come online and fully deploy within 30 minutes.
Requirement	30-Min RUR Requirement + the largest contingency *This requirement will be met by 30-Min RUR and 30-Min Secondary Reserves (nested design).*

*Cost-based offers above the soft offer cap may be submitted if justified with documentation



Day-Ahead Reserves

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Day-Ahead Scheduling Reserves (60-minute Reserves)

Performance	Maintain availability to provide energy and reserves consistent with day-ahead assignments. Come online when called by PJM in real-time.
Soft Offer Caps*	**DAM:** $10/MWh. **RTM:** N/A
Resource Eligibility	Resources must be online or able to come online within 30 minutes and be able to fully respond (ramp) within 60.
ORDC	A single step at $50/MWh
Requirement	Based on Risk Day, $DASR_T$ = load $forecast_T$* load error + load $forecast_T$* gen performance + solar $forecast_T$ * solar error + wind $forecast_T$ * wind error Hourly DASR values would be capped at the DASR values for the peak load hour. *This requirement will be met by 10-Min RUR Up, 30-Min RUR, 30-Min Secondary Reserves, 60-minute Reserves (nested design).*

*Cost-based offers above the soft offer cap may be submitted if justified with documentation

Risk Level	Percentile	Load	Gen. Perf.	Solar	Wind
Low	80th Load / 50th Others	2.19%	2.03%	11.28%	9.68%
Medium	85th All	2.42%	3.49%	22.50%	24.19%
High	90th All	2.79%	3.88%	25.51%	26.54%

* Uncertainty % based on three years of historical data

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Locational Procurement

Synchronized Reserves	Nodal procurement where the reserve congestion constraint models a select number of interfaces that represent cascade risk
10-Min Ramp/Uncertainty Reserves	Nodal procurement where the reserve congestion constraint uses the same DFAX and the same transmission limits as for energy
30-Min Reserves	Nodal procurement where the reserve congestion constraint uses reserve-specific DFAX that reflect post-contingency flows for contingency scenarios of reliability concern
Day-Ahead Reserves	RTO procurement

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Acronyms

Acronym	Term & Definition
SR	**Synchronized Reserves** are reserves provided by resources that are synchronized to the grid and can respond within 10 minutes.
ORDC	An **Operating Reserve Demand Curve** is an administrative pricing curve that represents the markets willingness to pay for reserves at different reserve levels.
RUR	**Ramping/Uncertainty Reserves** are reserves that would be procured to manage forecasted ramp and uncertainty operational flexibility needs.

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