



# DR: New Reserve Market Changes

As of September 23, 2022

# Disclaimer:

PJM has made all efforts possible to accurately document all information in this presentation. The information seen here does not supersede the PJM Operating Agreement or the PJM Tariff both of which can be found by accessing:

<http://www.pjm.com/documents/agreements/pjm-agreements.aspx>

For additional detailed information on any of the topics discussed, please refer to the appropriate PJM manual which can be found by accessing:

<http://www.pjm.com/documents/manuals.aspx>

- **Overview**
- Secondary Reserve Transition
- Registrations
- Markets Gateway
  - Offers
  - Market Results for SECR
  - SR Subzone
- Events, Settlement, Compliance

## Reserve Market Overview

- The PJM Reserve Markets provide PJM participants with a market-based system for the purchase and sale of the Synchronized Reserve, Primary Reserve, and 30-Minute Reserve Services
- The PJM Reserve Markets are conducted in both the Day-ahead Market processes and in real-time
- Both the Day-ahead and Real-time Reserve Markets are offer-based and procure resources to meet the required Reserve Services:
  - Synchronized Reserve Service: can only be satisfied by online resources that are able to respond in ten (10) minutes or less
  - Primary Reserve Service: can be satisfied by online or offline resources that are able to respond in ten (10) minutes or less
  - 30-Minute Reserve Service: can be satisfied by online or offline resources that are able to respond in thirty (30) minutes or less

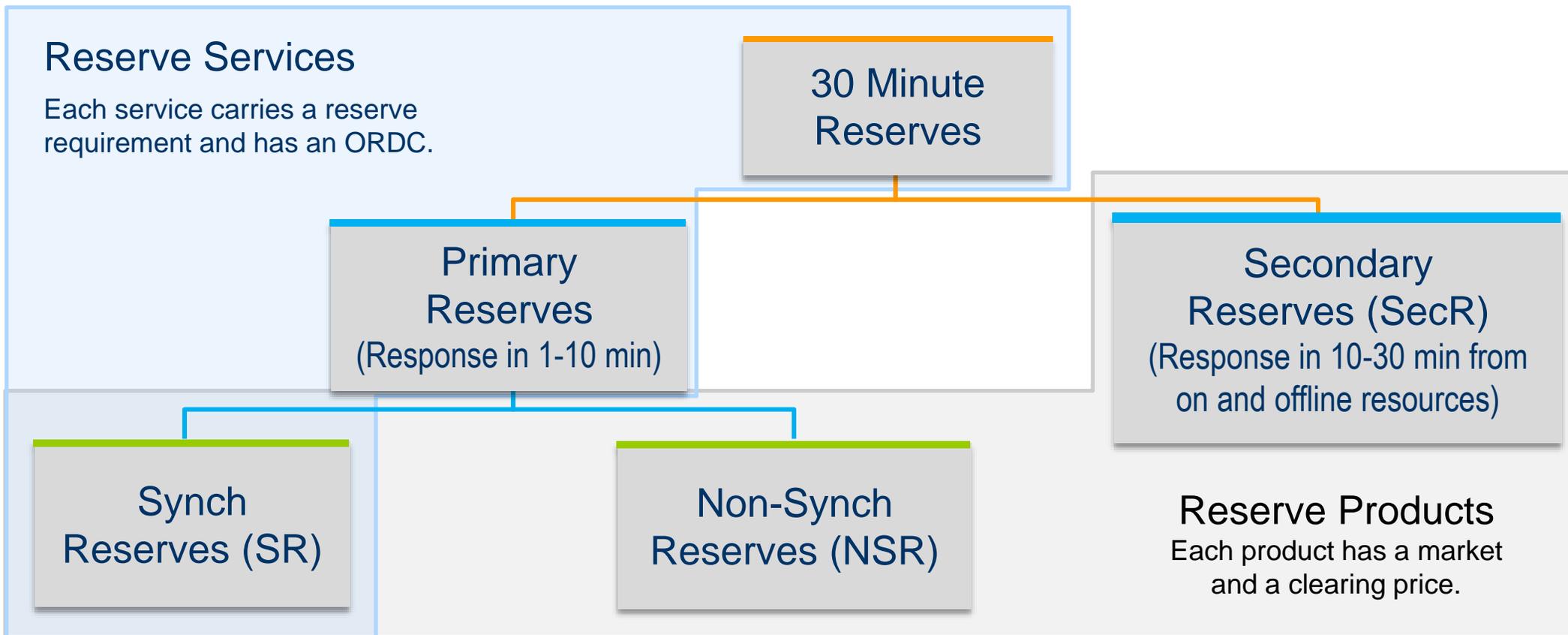
## Reserve Market Overview

- PJM has three reserve products that can meet the required Reserve Services:
  - Synchronized Reserve Product: online resources that are able to respond in ten (10) minutes or less. The Synchronized Reserve product can satisfy the Synchronized Reserve, Primary Reserve, and 30-Minute Reserve Services
  - Non-Synchronized Reserve Product: offline resources that are able to respond in ten (10) minutes or less. The Non-Synchronized Reserve product can satisfy the Primary Reserve and 30-Minute Reserve Services
  - Secondary Reserve Product: online or offline resources that are able to respond between ten (10) and thirty (30) minutes. The Secondary Reserve product can satisfy only the 30-Minute Reserve Service

## Reserve Market Overview

- The Synchronized Reserve, Non-Synchronized Reserve and Secondary Reserve products have a priority sequence based on the level of reliability which each provides
- Synchronized Reserve, being the most reliable as it is online and can respond in ten (10) minutes or less, can also meet the Primary and 30-Minute Reserve requirements
- Non-Synchronized Reserve can also meet the 30-Minute Reserve requirement. Since the system operates in the most economical manner while satisfying each reserve requirement, economics dictate the extent to which more reliable reserve excesses are applied to subordinate reserve categories

# Reserve Services and Products



Clearing Price represents procurement of the Synch Reserve requirement	Clearing price represents procurement of the balance of the Primary Reserve Requirement not met by Synch Reserves	Clearing price represents procurement of the balance of the 30 Min Requirement not met by Synch and Non-Synch Reserves
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# Flexible vs Inflexible Designation in Reserves

## Flexible

- Online generators following economic dispatch and can be backed down for Reserves
- **Demand Response**
- Clear on a 5-minute basis
- Requires prior PJM approval

Ability to receive Reserve commitment via approved telemetry (ie. DNP3, ICCP)

    Synch: ASPIN signal

    Secondary: ASECREs signal

Note: email a request to [PJMTelemetrySupport@pjm.com](mailto:PJMTelemetrySupport@pjm.com) for implementation

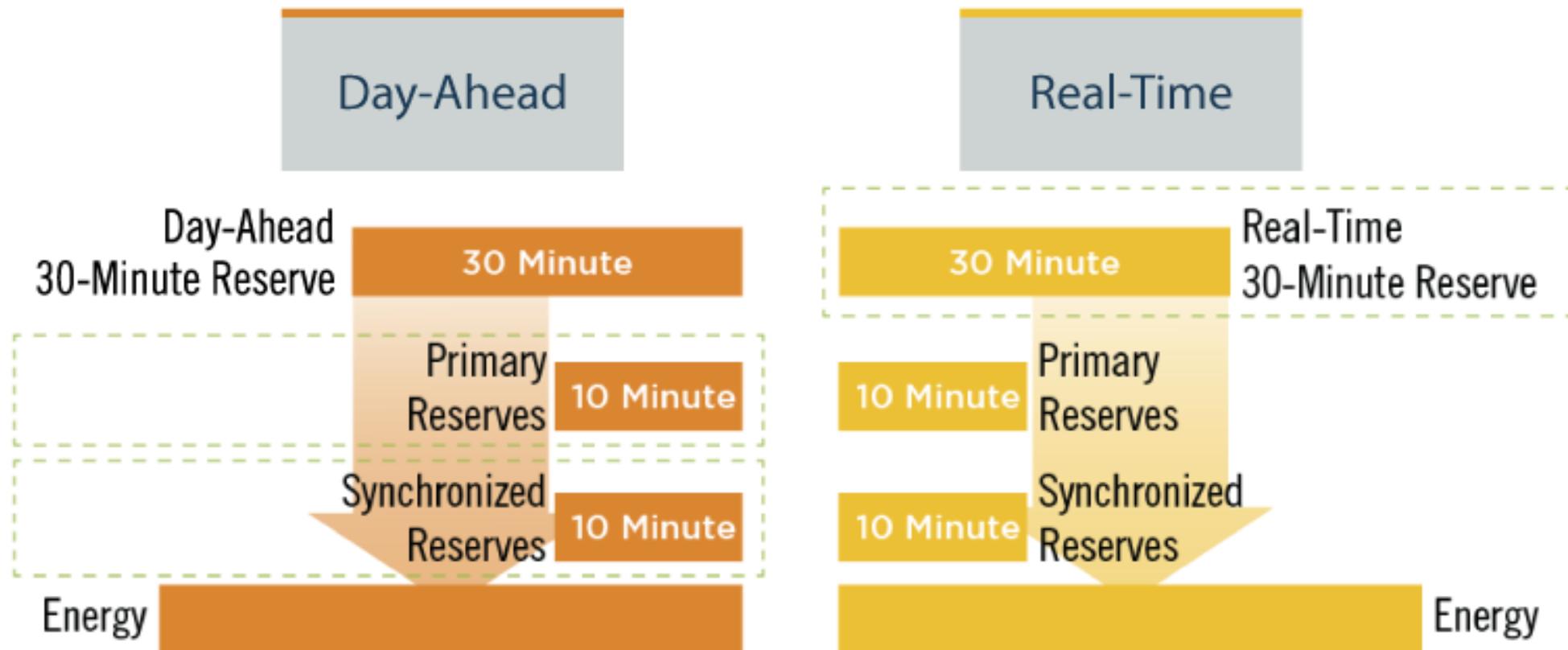
## Inflexible

- Synchronous condensers that can be committed for Reserves from offline state
- **Demand Response**
- Clears on hourly basis; participant notified 30 minutes prior to hour if committed

Commitment notified via Markets Gateway

- Batch Load registrations must demonstrate a cyclical production process such that at most times during the process it is consuming energy, but at consistent regular intervals, ordinarily for periods of less than ten minutes, it reduces its consumption of energy for its production processes to minimal or zero megawatts. CSP must submit one minute incremental load history (6 month) into DRHUB as part of the Ancillary Services certification which shows such process to qualify as batch load
  - PJM will review load data in order to approve 'batch' load designation

# Day-Ahead and Real-Time Reserve Alignment



Solidify financial incentives to provide reserves when assigned due to day-ahead financial commitment.  
Remove modeling differences between Day-Ahead and Real-Time Energy Markets.

# DA Reserve Assignments Carried to RT

**Condensers and Inflexible Economic Load Response resources that are cleared day-ahead will have their commitments carried to real-time**

Need to have a min run time no greater than one hour and notification time between ten and thirty minutes

Commitment is carried over unless in real-time the resource is committed to provide energy or another reserve product

# Identical Clearing Mechanism in DA and RT Markets

**Reserves and energy will be co-optimized the same way in DA and RT**

- The two-stepped ORDC will be implemented in DA and RT: generally, same reserve requirements; penalty factors will be identical for DA and RT
- Same reserve zone configuration in DA and RT unless there is an operational emergency requiring it to be changed in RT

There will be differences in cleared MW and prices between DA and RT markets

# Consolidation of Tier 1 and Tier 2 Synchronous Reserve Products

## **Tier 1 and Tier 2 reserve products will be consolidated into one, uniform, Synchronized Reserve product that is similar to Tier 2 today**

This unified product will:

- Be obligated to respond to PJM instructions during a Synchronized Reserve Event
- Be compensated at the applicable clearing price for the assigned MW amount
- Face the existing penalty if the resource does not respond during an event

This change is motivated by the need to enhance the accuracy of PJM's reserve measurements and the reliability of response in addition to creating comparable compensation for comparable service.

# Expected Benefits of Tier 1 / Tier 2 Consolidation

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**By applying these standards across all Synchronized Reserve resources, PJM expects the following benefits:**

- More accurate reserve calculations that require less operator intervention
- More reliable reserve assignments that will improve Synchronized Reserve performance
- Consistent compensation and penalties for all resources providing the same service
- More accurate energy and reserve pricing due to improved Synchronized Reserve measurement

# Flexible Reserve Subzones

**The Reserve Price Formation implementation introduces the ability to have Flexible Reserve Subzones to:**

More dynamically adjust the reserve subzone to better reflect system conditions

Better enable reliable operations and result in market results that are more consistent with system operations

Only one subzone will be active at any given time and will be communicated in the Markets Gateway application

# Creation of New Reserve Subzones

**New reserve subzones can be defined for constraints in these three categories:**

<b>Reactive transfer interfaces</b> (AP South, BED-BLA, etc.)	<b>230 KV or above actual overload constraint (i.e. Conastone-Peach Bottom 500kV actual overload)</b>	<b>Contingency overload exceeding the load dump limit on a 230kV or above facility</b>
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New reserve subzones will be defined as far in advance as possible, and cannot be created on a same-day basis.

# Reserve Subzone Composition

**Reserve subzones will be defined as all buses that have a 3% or greater (raise-help) distribution factor on the associated transmission constraint**

- Definitions will be posted on Ancillary Services page of [pjm.com](http://pjm.com)
- Reserve subzone definitions will be re-evaluated and published quarterly or coincides with the network model builds

## **A resource may belong to multiple Reserve Subzones**

- Resources assigned Reserve subzone and active subzone will reflect in Markets Gateway

# Determination of Active Subzones

**As system conditions dictate, PJM may need to update the active subzone in the Reserve Markets**

Active subzone for an operating day will be communicated via Active Subzone screen in Markets Gateway

**By default, the 30-Minute Reserve Market will not model an active Reserve subzone**

On an as needed basis, due to gas contingencies or other operational conditions, PJM may model an active Reserve subzone requirement for 30 Minute Reserves

Activation of a Reserve subzone for 30-Minute Reserves will be done on a day ahead basis only

## MAD Subzone Structure

- The MAD sub-zone is defined in the Reserve Market to ensure that reserves are available in or deliverable to the eastern part of the system under constrained conditions. The MAD sub-zone is defined by the most limiting monitored transfer interfaces

Zones that are Always located in MAD	Zones that are Never located in MAD	Zones with specific buses that may be Located in MAD
PS, PE, PL, BC, JC, ME, PEP, AE, DPL, RECO	DEOK, CE, DAY, DUQ, ATSI, EKPC, PN, AEP	AP, DOM

The MAD sub-zone Bus and Resource list is posted on the PJM website at: <http://pjm.com/~media/markets-ops/demand-response/pjm-companies-by-zone-by-region.ashx>

## New Reserve Subzone: BC/PEP/DOM (BPD)

**A new Reserve Subzone will be introduced with the Reserve Price Formation implementation: Baltimore, Pepco, Dominion (BPD)**

BPD will only be used during the heavy North-South flow or during a specific transmission outage

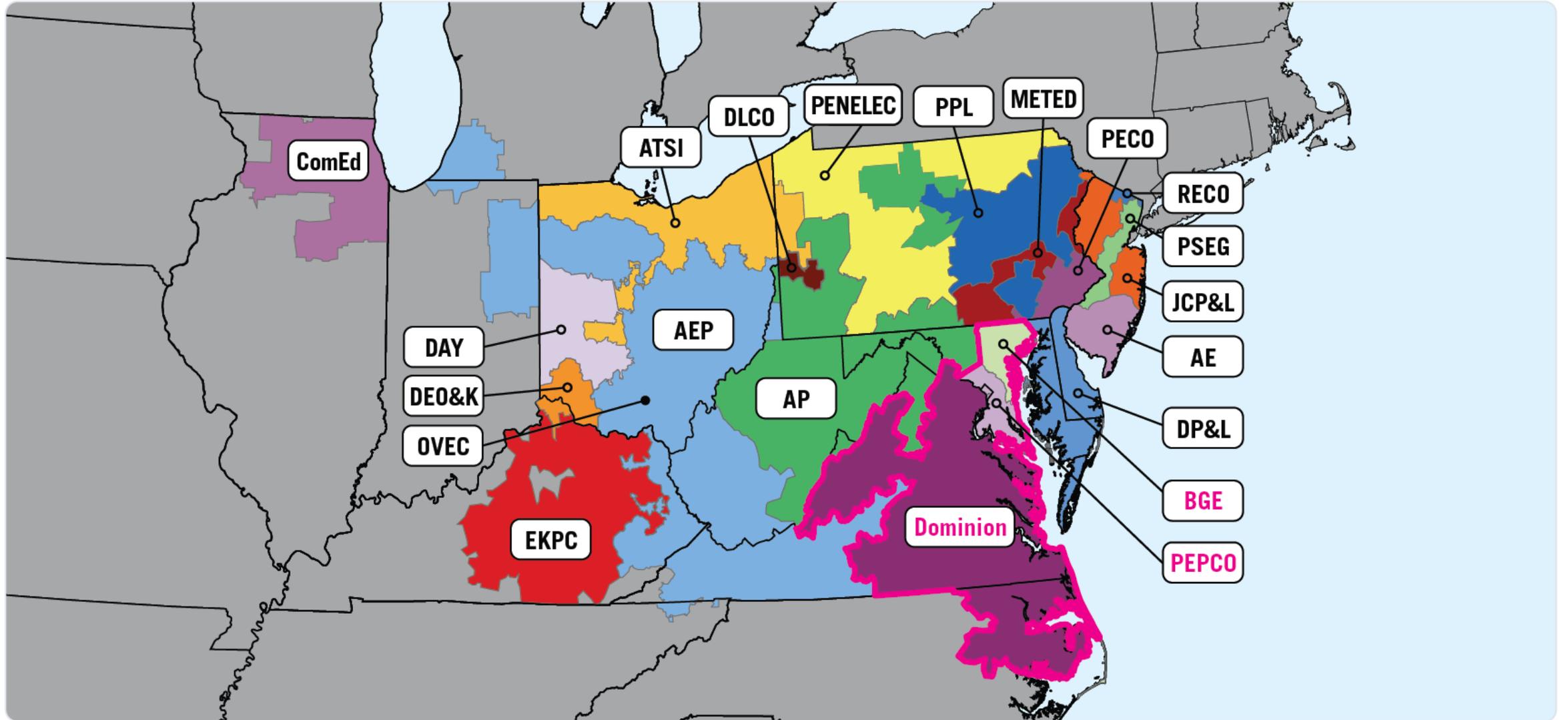
**The resources included in the Reserve Subzone will be predefined**

Predefined list available on the Ancillary Services page of [pjm.com](http://pjm.com)

The predefined list will be updated periodically, or at least every quarter to coincide with the network model update

**MAD will remain the default subzone despite the new BPD subzone creation**

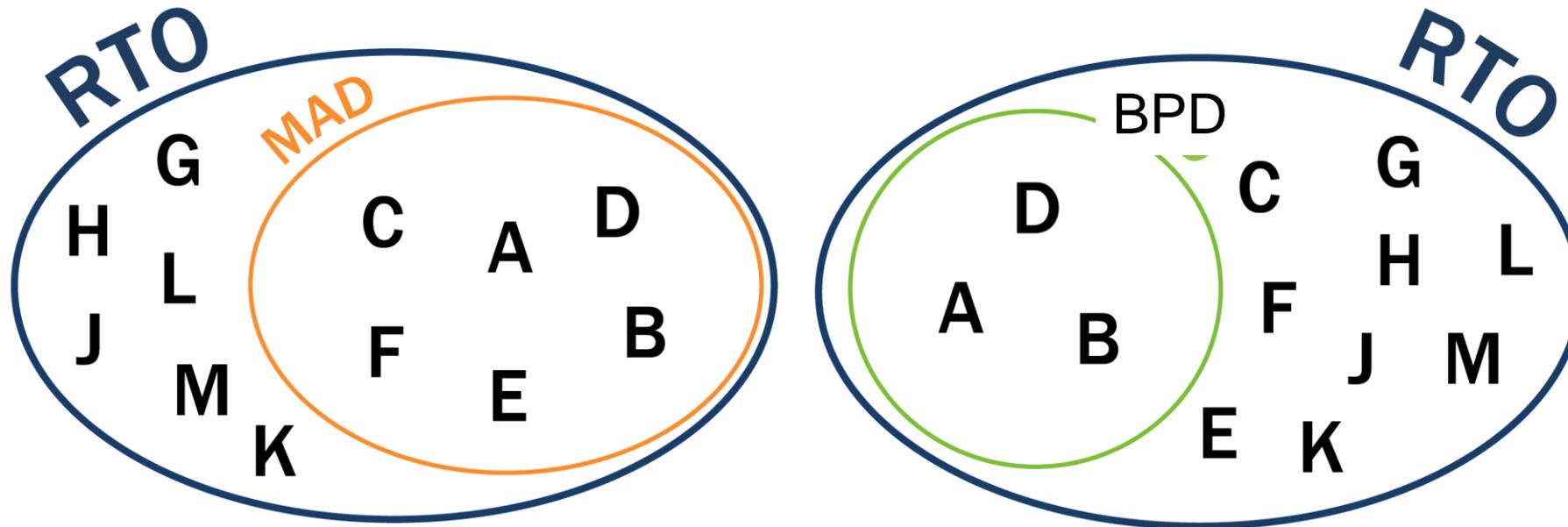
# Baltimore Pepco Dominion (BPD) Subzone



# Communication of Active Subzones

## Subzones will be modeled on a day-ahead basis and will apply for the entire operating day

<ul style="list-style-type: none"><li>By default, the same subzone will be active in the Day-Ahead and Real-Time Markets</li></ul>	<ul style="list-style-type: none"><li>Changes to the active reserve subzone can be made in real-time intraday on an exception basis</li></ul>	<ul style="list-style-type: none"><li>Stakeholders will be notified of all intraday switches in the active reserve subzone via Markets Gateway</li></ul>	<ul style="list-style-type: none"><li>Markets Gateway will reflect resource's assigned active subzone</li></ul>
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\*A-M represent resource locations

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- **Secondary Reserve Transition**
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# Secondary Reserve (SECR) Transition

- Implementation dates:
  - Training – September 15, 2022
  - Production - October 1, 2022
- DASR
  - Registrations with DASR Market will have DASR removed from registration on SECR implementation date
- SECR
  - Offers may be made in Markets Gateway for 10/1/2022 starting 10/24/2022. CSP must contact DR Ops first to get their registration eligible for SECR in Markets Gateway before 10/1/2022.
  - Any CSP may request to add SECR to a Confirmed Economic registration by emailing [dsr\\_ops@pjm.com](mailto:dsr_ops@pjm.com)
  - CSP must send documentation by email along with request
  - New registrations will be able to select SECR starting on 10/1/2022.

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- Secondary Reserve
  - Available in the Markets section of Economic registrations
  - Must choose Flexible or Inflexible
    - Inflexible offers/clears every hour, Flexible offers/clears every 5 minutes
  - May choose Batch Load
  - Must choose LSE unless Residential Registration is checked or another Market is checked that requires an LSE
  - May not be added to a Dispatch Group

- New Secondary Reserve section appears
  - SECR Data must be uploaded by CSP before submitting registration
    - One minute template/batch load qualification data uploaded in SECR section (same as SR) <https://pjm.com/-/media/etools/dr-hub/drhub-synchronized-reserve-meter-data-submissiontemplate.ashx?la=en>
  - SCADA Tested and Verified if Flexible is chosen
  - PJM review is created when registration is submitted for EDC/LSE review
    - PJM has 60 calendar days to review the meter data and approve or deny the request
  - New XSD for Web Services has been posted on <http://pjm.com/markets-and-operations/etools/dr-hub>

Registration Detail

- Tasks
- Locations
- Registrations
- Events
- Meter Data
- Energy Settlements
- Compliance
- Dispatch Groups
- Account and Users
- Reports
- RERRA

Registration has been successfully saved. Registration ID is 3308713.

- Cancel
- Save
- Submit
- Copy
- Search
- Resource Outage

Name \*  CSP  Status

Reg ID  Program \*   Hold Scheduling  Hold Settlement

Effective Date \*  Termination Date \*  Allow Modification  EDC  LSE

EDC  ZONE  LSE  Pricing Point

Residential Registration?

Markets

RT Energy  Regulation  Synchronized Reserve  Secondary Reserve

DA Energy  Inflexible  Flexible  Batch Load

CBL Test

CBL Method

Basis Window						CBL Method		RRMSE	
Action	Report Type	Start Date	End Date	Start Hour	End Hour	CBL Method	Date Run	Score (%)	Result
	RRMSE			14	19	3 Day Types with SAA (DEFAULT)			

(1 of 1) << < 1 > >> 10

1 record(s)

Secondary Reserve

SECR Area

Upload Meter Data here

Locations

Energy Loss Factor  Maximum Load Reduction Capability (kW)

# Web Services/DR Hub

```
<ns2:registrations xmlns:ns2="http://drhub.pjm.com/">
  <registration>
    <id>1529556</id>
    <summaryInfo>
      <name>jing test 3614 #3</name>
      <program>Economic</program>
      <startDate>2022-09-08T00:00:00.000-04:00</startDate>
      <endDate>2023-05-31T23:59:59.000-04:00</endDate>
      <CSP>
        <name>COMED</name>
      </CSP>
    </summaryInfo>
    ....
    <generatorCostInfo/>
    <energyInfo>
      <dayAhead>>false</dayAhead>
      <realTime>>true</realTime>
      <secondaryReserve>>true</secondaryReserve>
      <synchronizedReserve>>true</synchronizedReserve>
      <flexible>>true</flexible>
      <inflexible>>true</inflexible>
      <regulation>>false</regulation>
      <batchLoad>>false</batchLoad>
      <secrArea>MAD</secrArea>
      <secrSCADATestedAndVerified>>true</secrSCADATestedAndVerified>
      <srArea>MAD</srArea>
      <srSCADATestedAndVerified>>true</srSCADATestedAndVerified>
      <regulationSCADATestedAndVerified>>false</regulationSCADATestedAndVerified>
      <regulationTestCompleted>>false</regulationTestCompleted>
      <submeter>>false</submeter>
      <regulationCertify>>false</regulationCertify>
    </energyInfo>
    ...
  </registration>
</ns2:registrations>
```

New SECR fields in Registration area



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## Eligibility

- Have an economic registration in DRHub certified for Synch Reserve (SR) and/or Secondary Reserve(SECR) participation
- Able to reduce awarded amount within 10 minutes (SR), or at least by Economic Minimum in 30 minutes (SECR)
- Capable of a minimum offer of 0.1 MW
- Provide metering information at no less than a one-minute scan-rate
- Upload one-minute meter data into DRHub no later than two business days following the event day
- Demand Response (including those designated as 'batch' load) may provide 100% of reserve requirements
- SECR must be available for energy in order to clear
  - Requires valid energy offer (real-time or day ahead) in Markets Gateway
  - Note that SECR registrations will respond to normal RT energy dispatch instructions (known as SECR dispatches for the remainder of this Training)

## Eligibility (con't)

- Residential locations without meters recording at a one (1) minute interval may participate using the statistical sampling method detailed in PJM Manual 19
- CSPs must complete annual mandatory training on Regulation and Reserve Markets
- Demonstrating the ability to receive reserve commitments via approved telemetry (e.g. Jetstream) qualify as a 'flexible' resource (Demand Response are 'inflexible' by default)
- Demand Response are not eligible to provide Non-Synchronized Reserves

- Whenever Economic Load Response assigned in the Reserve Markets is called on to respond to a mandatory Emergency or Pre-Emergency Load Management Event, it will be de-assigned from Reserves for any intervals that overlap with the Load Management Event, starting from the notice time of the Load Management Event, unless otherwise approved by PJM
- PJM will not assign the resource to Reserves for the remainder of the mandatory portion of the Load Management Event

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# Offer Structure

- Reserve offers consist of three elements: Availability, Offer MW, and Offer price
  - Offer Price (SR) capped at SR penalty\*
  - No Offer Price for SECR
- Ability to separately specify the Availability and Offer MW for Reserves.
  - Minimum offer of 0.1 MW
- Able to self-schedule offer MW quantity into the Synchronized Reserve Market only
- Capability is calculated as minimum of (Reserve Offer MW, EcoMax)
- SECR must be available for energy (real-time or day ahead) in order to clear
- Flexible resources can designate flexible status on a daily basis
- Both SR and SECR offers made by 11 am prior to the operating day will be considered in Day Ahead Market for that operating day.

*\*At the time of implementation of this rule the expected value of the penalty shall be \$0.02/MWh, and for the period from the second month after implementation through the second January 1 following such date of implementation, the expected value of the penalty shall be recalculated on a monthly basis using data from the implementation date of this rule through the 15th day of the current month, and the revised value shall be effective the 1st day of the following month. Values will be communicated through the CDS and will be capped in Markets Gateway.*

# Offer Structure

Parameter	Reserve Market	
	Synchronous (10-minute)	Secondary (30-minute)
Availability	Set in Markets Gateway	Set in Markets Gateway
MW	Set in Markets Gateway	Set in Markets Gateway
Price	Set in Markets Gateway capped at SR penalty	NA
Self-Scheduling	Set in Markets Gateway Offer MW can be designated as Self Scheduled	NA
Capability	Minimum (SR Offer MW, Eco Max)	Minimum (SECR Offer MW, Eco Max)

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## Market Results

- Incorporates dropdown selection filters on all fields to aid in viewing desired results
- Structure allows for viewing of each Market on its own partitioned by Day Ahead and Real Time results where applicable
- Note that Flexible Reserve results will not appear in the Markets Gateway Interface – please adhere to the Flexible awards communicated via the telemetry for assignments

# Reserve Markets Results

- 1. Select Any of the Reserve Market tabs (note partition between Day Ahead and Real Time)
- 2. Use Dropdown Selection to filter viewing results
- 3. Note Location dropdown in order to filter down to a single location results
- 4. Note that in example below the Offer MW has been filtered to view only results where MW>0 (indicating offers)

Bilaterals  
Demand  
▼ Demand Response  
Demand Response  
**Market Results**  
Regulation Market  
Synchronized Reserve Ma  
Secondary Reserve Marke

Portfolio TestSECR

Refresh XML CSV

DA Energy Award Regulation Award **DA Synchronized Reserve Award** RT Synchronized Reserve Award DA Secondary Reserve Award **RT Secondary Reserve Award**

PJMTST >> 2022-09-06 >> TestSECR

Hour	Location	Area	Offer MW	Awarded MW
Show all	Show All	show all	[x] > 0	show all
4	R_SecROnlyFlexCE1_3308652	PJM_RTO		1.0
4	R_SecROnlyNFlexCE1_3308653	PJM_RTO		1.0
4	R_SecROnlyNFlexCE2_3308651	PJM_RTO		1.0
5	R_SecROnlyFlexCE1_3308652	PJM_RTO		1.0
5	R_SecROnlyNFlexCE1_3308653	PJM_RTO		1.0
5	R_SecROnlyNFlexCE2_3308651	PJM_RTO		1.0
6	R_SecROnlyFlexCE1_3308652	PJM_RTO		1.0
6	R_SecROnlyNFlexCE1_3308653	PJM_RTO		1.0
6	R_SecROnlyNFlexCE2_3308651	PJM_RTO		1.0

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# Area Name (Reserve Zone/SubZone)

- For Registrations that participate in the Reserves Markets the Reserve Zone/Active Sub-zone will appear in the Area Name in the Hourly Updates Tab of the Demand Response sub-directory for that operating day

The screenshot displays the PJM Markets Gateway interface. The top navigation bar includes 'My Tools', 'Market Day' (9/7/2022), 'PJMST', and 'PJM Interconnection'. The left sidebar lists various market categories, with 'Demand Response' selected. The main content area shows the 'Hourly Updates' tab for a specific registration (R\_SecRFlexBC1\_3308639). The table below shows hourly data for the day of 2022-09-07. The 'Area Name' column is highlighted with a red box, and a red arrow points to the 'MAD' value in the second row.

Hour	Commit Status	Econ. Min.	Econ. Max.	Min. Downtime	Notification Time	Shutdown Cost	Area Name
1	Unavailable						MAD
2	Unavailable						MAD
3	Unavailable						MAD
4	Unavailable						MAD
5	Unavailable						MAD
6	Unavailable						MAD
7	Unavailable	0	5				MAD
8	Unavailable	0	5				MAD

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# Electronic Notification/Polling Requirement (DRHUB)

**Requirement:** It is a requirement for CSPs to receive Electronic Notification for Emergency DR, real-time (RT) dispatch (ie for SECR dispatches as well as for non-SECR real time dispatches) and Synchronized Reserve Events

**Objective:** To communicate with CSPs, via DRHUB web service functions, their Load Management, RT dispatch and Synchronized Reserve instructions and confirm that the instructions have been received

**Events:** When PJM calls Load Management, RT Dispatch or Synchronized Reserve events, information needs to be pulled from DRHUB by the CSP via periodic polling

- Polling is done by CSP (organization)
  - If CSP has more than one ORG with registrations, then they must poll each ORG separately
- At each CSP/ORG there should only be one userid performing the polling
  - That userid should have Manage All permission level in DRHUB
- Polling shall be performed on a 1 minute frequency
- Acknowledge events upon receipt
- Contact [dsr\\_ops@pjm.com](mailto:dsr_ops@pjm.com) for more information

## Upload Meter Data in DRHub

- CSP must upload load 1 minute meter data into DRHub for all registrations for all SR events/SECR dispatches
- CSPs must upload 1 minute data within 2 business days after SR event/SECR dispatch
- CSPs should provide 1 minute data for a minimum of 10(SR)/30(SECR) minutes before the start of the event/dispatch to 10(SR)/30(SECR) minutes after the event/dispatch end
- A template for the meter data submission is posted on the PJM website:

<http://www.pjm.com/~media/etools/dr-hub/economic-ancillary-services-example.ashx>

Registration	Account	Date	Type	UOM	Value
7271	01234567891	05/29/2012 15:01	Minute_Load	KW	4001
7271	01234567891	05/29/2012 15:02	Minute_Load	KW	4021
7271	01234567891	05/29/2012 15:03	Minute_Load	KW	4011
7271	01234567891	05/29/2012 15:04	Minute_Load	KW	4015
7271	01234567891	05/29/2012 15:05	Minute_Load	KW	4011

# Measurement and Verification

- CSP that does not provide timely load data may be suspended from Reserve market until corrective measures are implemented and may be referred to the PJM Market Monitor and/or the FERC Office of Enforcement for further investigation as necessary
- CSP registrations are required to respond to SR events/SECR dispatches when they receive dispatch instructions from PJM. Actual responses used to determine penalties
  - SR response must be within 10 minutes
    - Do not wait to determine if SR event will be >10 minutes before responding
  - SECR response must be within 30 minutes
    - SECR to reduce load by at least the Economic Minimum MW within 30 minutes of notification time of real time dispatch
- Responses are verified by the PJM Performance Compliance Department following each SR event/SECR dispatch
  - CSP compliance consists in measuring responses for all CSP's registrations assigned in an SR event no matter the Reserve Zone
    - CSP compliance for RTO wide event is measured for all assigned registrations in RTO, not split between Subzone and rest of RTO not in the Subzone.
  - Compliance evaluation for SECR is on an individual registration basis

# SECR Measurement and Verification

- Compliance is measured when a real-time dispatch instruction is subsequent to a cleared SECR interval during the operating day.
  - Economic Load Response Participant resource has been assigned by the Office of the Interconnection to provide Secondary Reserve in real-time and is subsequently dispatched to supply the Secondary Reserve assignment as a load reduction (ie a real-time energy dispatch instruction)
  - Compliance requires that load must be reduced by at least the Economic Minimum MW within 30 minutes.
  - Compliance is measured at the registration level only
- Reduction is the difference between the registration's meter reading at the notification time of the real time dispatch instruction and its meter reading 30 minutes after that time.
  - Meter reading at start of event: greatest metered output between one minute prior to and one minute following the notification of the dispatch instruction.
  - Meter reading 30 minutes after the dispatch instruction: the lowest meter reading achieved between 29 and 31 minutes following the notification of the dispatch instruction

## SECR M&V Batch Load

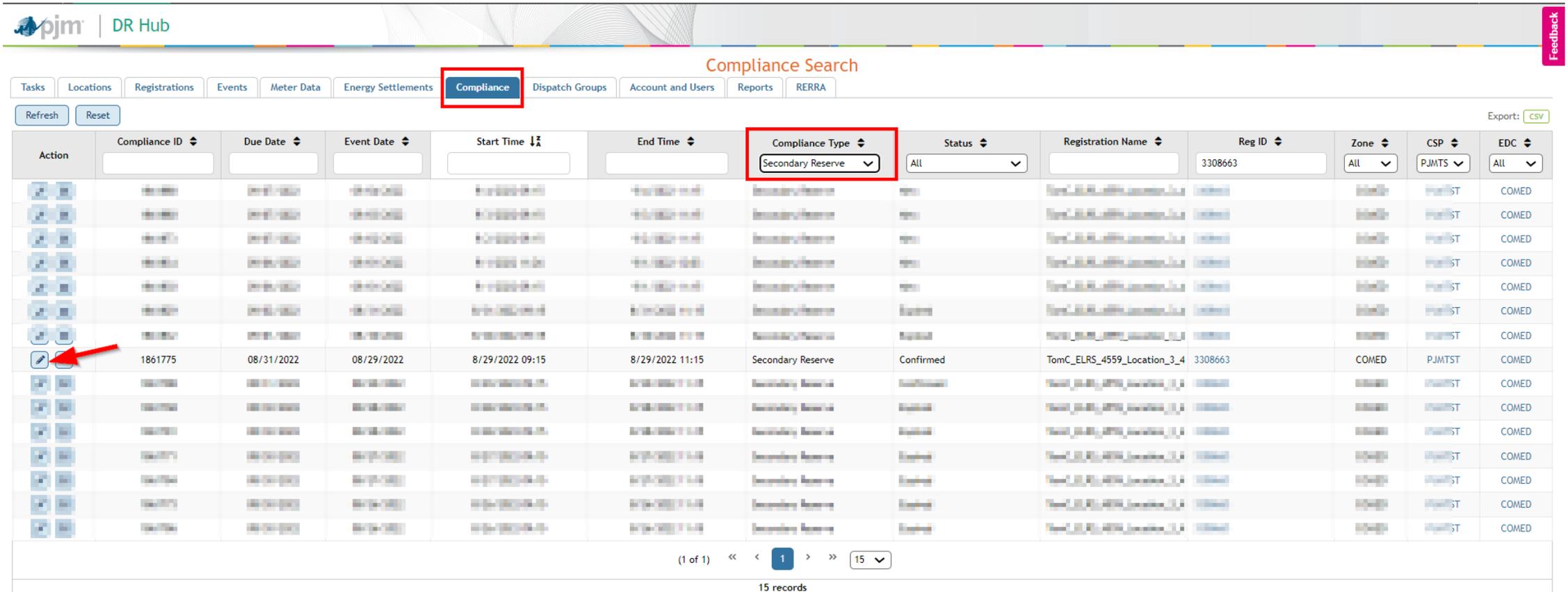
- For demand registrations that are considered "batch load", a second method of verification will be used for instances where a SECR real time dispatch is initiated and the registration is operating at the minimum consumption level of its duty cycle
- In this case, the magnitude of the response will be measured as the difference between (a) the consumption at the end of the event and (b) the maximum consumption within a ten (10) minute period following the event provided that all subsequent minutes following that minute are no less than 50% of the consumption in that minute
- Again, the load must be reduced by at least the Economic Minimum MW within 30 minutes of notification time

## SECR Event/Compliance records in DRHub

- Upon an SECR dispatch (real-time energy dispatch), DRHub will produce a real time dispatch event which will proceed according to normal energy settlement rules and a compliance record.
- Overnight DRHub will create both a real-time energy settlement and SECR compliance record(s) for the dispatch(es). CSP must submit 1 minute meter data for all locations in the registration dispatched within 2 business days into the compliance record
- CSP will be notified of the compliance record by a new task in DR Hub and email. These will be implemented post SECR implementation.
- Normal economic energy timing rules apply for the energy settlement (meter data uploaded up to 60 days after the event)

# SECR Compliance record in DRHub

- Navigate to DRHub Compliance tab filter on Compliance Type “Secondary Reserve” and then click on the Pencil icon (left of the screen) to select desired record. Opens up into the Compliance Details screen



Compliance Search

Tasks Locations Registrations Events Meter Data Energy Settlements **Compliance** Dispatch Groups Account and Users Reports RERRA

Refresh Reset Export: CSV

Action	Compliance ID	Due Date	Event Date	Start Time	End Time	Compliance Type	Status	Registration Name	Reg ID	Zone	CSP	EDC
	1861775	08/31/2022	08/29/2022	8/29/2022 09:15	8/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861776	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861777	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861778	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861779	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861780	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861781	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861782	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861783	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861784	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861785	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED
	1861786	08/31/2022	08/29/2022	08/29/2022 09:15	08/29/2022 11:15	Secondary Reserve	Confirmed	TomC_ELRS_4559_Location_3_4	3308663	COMED	PJMST	COMED

(1 of 1) << < 1 > >> 15

15 records

# SECR Compliance Upload Meter Data in DRHub

- In the Compliance Record upload the 1 minute meter data for all locations in the registration for SECR

**Compliance Details**

Tasks Locations Registrations Events Meter Data Energy Settlements **Compliance** Dispatch Groups Account and Users Reports RERRA

Cancel

Reg ID: 3308663 Registration Name: TomC\_ELRS\_4559\_Location\_3\_4 Status: Confirmed 

Event Date \*: 08/29/2022 Start Time \*: 8/29/2022 09:15 End Time \*: 8/29/2022 11:15

Zone \*: COMED CSP: PJMTST EDC: COMED

Compliance ID: 1861775 Compliance Type: Secondary Reserve Due Date: 08/31/2022

**Meter Data**

Measurement Method: AS - Secondary Reserve Meter Data Validation Date: 8/31/2022 18:00

Status/Detail: All Locations have sufficient meter data.

Download Meter Data [+ Upload Meter Data](#) 

**Locations**

Location Id	Location Name	
82844	TomC_ELRS_4559_Location_4	8585858686
82843	TomC_ELRS_4559_Location_3	1516151615

- A successful upload will move the status from 'New' to 'Confirmed' and show a "sufficient meter data" message in the Comment detail box:

**Meter Data**

Measurement Method: AS - Secondary Reserve Meter Data Validation Date: 

Status/Detail: **All Locations have sufficient meter data.**

- For each Economic Load Response Participant resource that fails to reduce load by at least the Economic Minimum within 30 minutes as instructed by PJM, the resource's Real-time Secondary Reserve assignment will be set to zero megawatts for that interval, and for all prior intervals in which the resource was assigned to provide Secondary Reserve in the Real-time Secondary Reserve Market between such non-performance event starting at the later of (A) the last interval the resource reduced load at the instruction of the Office of the Interconnection or (B) the beginning of that Operating Day, and for all subsequent intervals through the earlier of (C) the next interval in which the resource is dispatched to reduce load or (D) the end of the Operating Day.

# Day-ahead Reserve Clearing Credit

- Secondary (hourly)

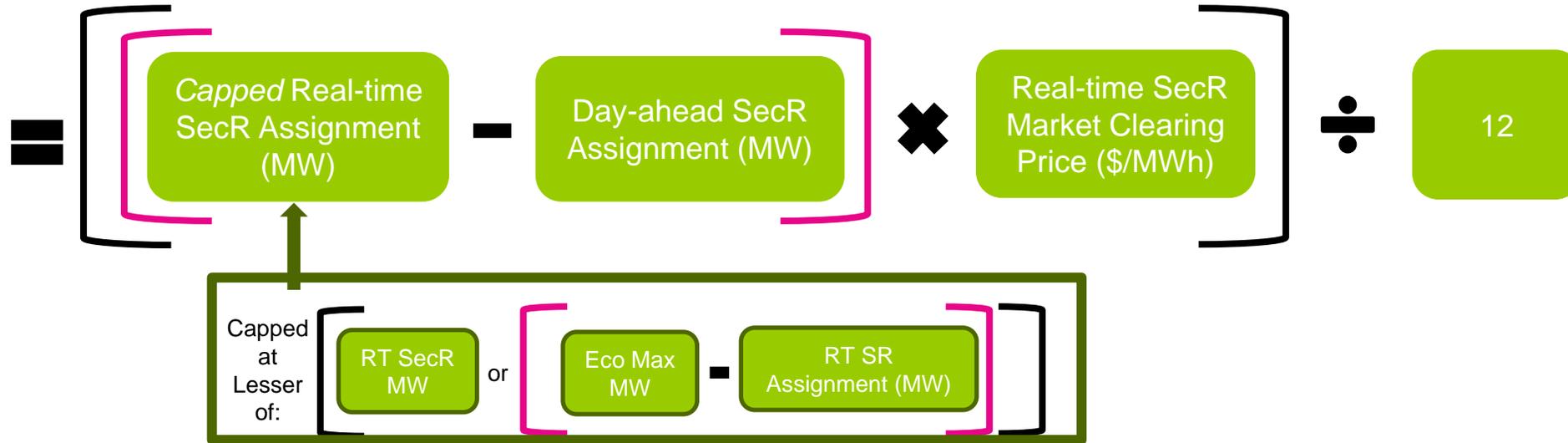
$$= \text{Day-ahead SecR Assignment (MW)} \times \text{Day-ahead SecR Market Clearing Price (\$/MWh)}$$

- Synchronized (hourly)

$$= \text{Day-ahead SR Assignment (MW)} \times \text{Day-ahead SR Market Clearing Price (\$/MWh)}$$

# Balancing Reserve Clearing Credit

- Secondary (5-min Interval)



- Synchronized (5-min Interval)



# Questions?

**PJM Client Management & Services**

**Telephone: (610) 666-8980**

**Toll Free Telephone: (866) 400-8980**

**Website: [www.pjm.com](http://www.pjm.com)**



The Member Community is PJM's self-service portal for members to search for answers to their questions or to track and/or open cases with Client Management & Services