

Synchronized Reserve Market Data

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Synchronized Reserve Offer Data

☐ Synchronized Reserve Offers Page

- This page is used to submit Tier2 synchronized reserve offers into PJM Synchronized Reserve Market
 - > Consists of Tier2 Offer MW. Price/Cost Data, Mode of Tier2 service
 - ➤ Data due by 18:00 EPT, the day before operating day;
 - > Data cannot be changed after 18:00 EPT, the day before operating day;
 - Cost/Price data are locked for the entire operating day
 - o Tier2 Offer MW can be revised up to 60 min before operating hour on the Synchronized Reserve Update Page





SR Offer Data - Offer MW

- ☐ Offer MW: The amount of Tier2 synchronized reserve MW offered quantity for the unit.
 - ➤ It is defined as the increase in output achievable by the unit in ten (10) minutes;
 - > Value can be adjusted up to 60 minutes before operating hour;
 - > Data is required if the unit is either available or self-scheduled to provide Tier2;
 - > Data must be positive;
 - > Tier2 floor offer MW quantity is capped at 0.1 MW;
 - ➤ Tier2 maximum offer MW quantity is unlimited but Tier2 Cleared MW will be capped at Ramp Rate * 10



SR Offer Data - Offer Price

- ☐ Offer Price (\$/MWh): The price at which Tier2 MW is offered into the Synchronized Reserve Market
 - > Value must be a positive number;
 - > Required if the unit is available for Tier2 synchronized reserve;
 - ➤ Value may not exceed the unit's O&M cost (as determined by the Cost Development Task Force) plus \$7.50/MWh margin;
 - Data is due by 18:00 EPT a day before operating day;
 - Data is locked (cannot be revised) for the operating day



SR Offer Data – Other Daily Cost Data

- Cond. Energy Use: Energy use for condensing Tier 2 resources (MW). This is the amount of instantaneous energy a condensing resource consumes while operating in the condensing mode. The value submitted as part of the synchronized reserve offer must be less than or equal to the actual energy consumed as observed in real time;
- Cond. Startup Cost: This is the actual cost associated with getting a resource from a completely off-line state into the condensing mode including fuel, O&M, etc;
- Cond. To Gen Cost: This is the cost of transitioning a condenser to the generating mode. The value submitted for this cost must be less than or equal to the condense Startup cost;
- > Spin As Cond.: This is used to identify if a combustion turbine can be committed for Tier2 synchronized reserve as a condenser.
- Cond. Available Status: Status of the resource availability for condensing (Available/Unavailable)



SR Offer Data – Other Daily Cost Data (2)

- Full Heat Rate: The heat rate of the unit, specified in BTU/kWh, when the unit is at full load;
- Reduced Heat rate: The heat rate of the unit, specified in BTU/kWh, when the unit is at reduced load;
- > VOM Rate: The variable rate, in dollars, of operating and maintenance costs;

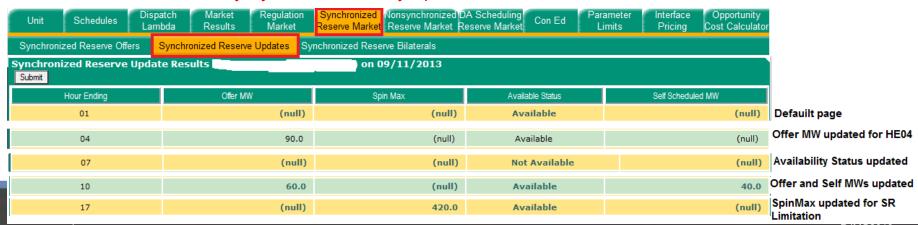
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Synchronized Reserve Updates

☐ Synchronized Reserve Updates Page

- ❖ To accurately reflect unit's reserve capability and availability during the operating day, this page can be used to make Tier2 hourly updates;
 - > Hourly updates can be made up to 60 minutes prior to the start of the operating hour;
 - ➤ Hourly updates supercedes all others
 - > Unavailability by 0 MW in hourly updates AND set to 'Unavailable'



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- SR Ramp Rate >= Energy Ramp Rate
- Energy Ramp Rate used to monitor must offer compliance
- SR Ramp Rate ONLY use for Tier 1 Estimates
- Default Ramp Rate ONLY used for DA Market

Energy Ramp Rate

Segment	MW	Ramp Rate (MW/Min)
1	100	1.0
2	200	5.0
3	450	10.0
4	550	1.0

Synchronized Reserve Ramp Rate

Segment	MW	Ramp Rate (MW/Min)
1	200	5.0
2	450	15.0

Default Ramp Rate = 10



Unit Detail Page

Unit Schedules	Dispatch Market Lambda Results			onsynchronized DA Scheduli Reserve Market Reserve Mark		Parameter Limits	Interface Pricing	Opportunity Cost Calculate
Unit Hourly Updates	ourly Updates Unit Detail		Energy Ramp Rates SyncRes Ramp Rates Weather Forecast		Wind Forecast			
Unit Detail Result for		on 09/06/20	13					
Submit								
Name		Value		Name			Value	
Type Of Unit		Sin	gle Boiler	Plant Name				
Unit Number			1	Unit Shortname				
Node				Operating Company				
Capacity Resource			Yes	Regulation Resource				Yes
Default Status		I	conomic	Default Ramp Rate				1.8
Fixed Gen.			No	Self Supply				No
Emergency Min(MW)			110.0	Emergency Max(MW)				628.0
Economic Min(MW)			110.0	Economic Max(MW)				550.0
Regulation Min(MW)			300.0	Regulation Max(MW)				430.0
Reduced Ramp Rate (%)			0	Spinning Max(MW)				550.0
Condense Available			No	Condense Startup Cost(\$)				(null)
Condense Energy Usage(M	w)		(null)	Condense To Gen Cost(\$)	(null)			
Condense Notification Time		(null)		Condense Hourly Cost(\$)		(null)		
B				Torondoros Barba Clark				
Parameter Limits Description				Turndown Ratio Limit				1.5
Maximum Daily Starts Limit	t		1	Maximum Weekly Starts Lir	2			
Minimum Runtime Limit			24	Minimum Downtime Limit				24

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Unit Hourly Updates - Energy

