



PJM Real-Time Energy Market

PJM State & Member Training Dept.



Objectives


Students will be able to:

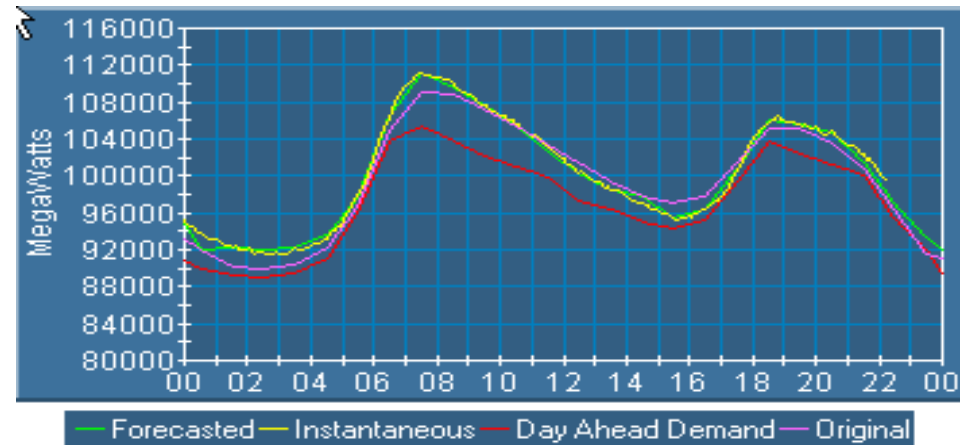
- Identify the process and procedures for participating in the Real-Time Energy Market

Reliability Analysis

- Second commitment to ensure that there is enough generation to meet the real-time load forecast
- Day Ahead results are posted at 16:00
- Rebid period is 16:00-18:00
- Gives units not picked up in day ahead the opportunity to change their offers/parameters
- Reliability Analysis begins at 18:00
- Committed units will be notified by phone

Reliability Analysis (RA)

- Re-bid period closes at 1800
- For the RA, focus is reliability
- Analysis includes: 
 - Updated offers
 - Unit availabilities
 - PJM load forecast
 - DASR Objectives



Timelines

Unit hourly updates may be changed during the operating day for the current hour or future hours

- Any changes that are made during the current hour will be prorated to reflect the change only for the remainder of the hour
- Any changes that are made for future hours in the current operating day will be fully reflected for that hour
- Any changes that are made for future hours in the next operating day (changes must be made prior to noon the previous day) will be considered in the Day Ahead Market

Unit
Schedules
Dispatch Lambda
Market Results
Regulation Market
Synchronized Reserve Market
Nonsynchronized Reserve Market
DA Scheduling Reserve Market
Con Ed
Parameter Limits
Interface Pricing
Opportunity Cost Calculator

Unit Hourly Updates
Unit Detail
Energy Ramp Rates
SyncRes Ramp Rates
Weather Forecast
Wind Forecast

Unit Hourly Updates Search

Portfolio:
Unit:
Date: 12/27/2013

Hourly Values
Apply To: 08-23

Defaults
Emergency Min 211.0
Economic Min 211.0
Economic Max 330.0
Emergency Max 330.0
Commit Status Not Available
Fixed Gen No

Unit Hourly Updates for on 12/27/2013

Hour Ending	Em. Min. Def.	Em. Min. MW	Ec. Min. Def.	Ec. Min. MW	CIR	Ec. Max. Def.	Ec. Max. MW	Em. Max. Def.	Em. Max. MW	Commit Status	Fixed Gen.	Notification Time.
01	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
02	211.0										No	(null)
03	211.0										No	(null)
04	211.0										No	(null)
05	211.0										No	(null)
06	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
07	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
08	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
09	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
10	211.0										No	(null)
11	211.0										No	(null)
12	211.0										No	(null)
13	211.0										No	(null)
14	211.0										No	(null)
15	211.0										No	(null)
16	211.0										No	(null)
17	211.0										No	(null)

The Unit Hourly Updates page is used to submit real-time changes to unit statuses and MW operating limits

Changes made to the unit data using the Unit Hourly Updates web page supersede all schedule data (Schedule Detail web page), weather curve data (Unit Detail web page), and unit limits (Unit Detail web page)

Unit Hourly Updates Search

Portfolio: Unit: Date: 12/27/2013 (mm/dd/yyyy)

Hourly Values Apply To: 08-23

Defaults 211.0 211.0 330.0 330.0 Not Available No

Emergency Min 211.0 Economic Min 211.0 Economic Max 330.0 Emergency Max 330.0 Commit Status Not Available Fixed Gen No

Unit Hourly Updates for on 12/27/2013

Hour Ending	Em. Min. Def	Em. Min. MW	Ec. Min. Def	Ec. Min. MW	CIR	Ec. Max. Def	Ec. Max. MW	Em. Max. Def	Em. Max. MW	Commit Status	Fixed Gen	Notification Time
01												

Commit Status

- Economic - Unit is available and offered into the market for PJM to schedule
- Must Run - Indicates that the generating unit is self-scheduling. Unit MUST be committed. The unit is committed at Economic Min and allowed to move up to Economic Max
 - Note:** To fix output, make economic min and max the same value
- Emergency - Entire unit is placed in “Max Emergency” category and will not be scheduled unless PJM calls for Max Emergency generation
- Unavailable - Unit is out of service and will not be scheduled
 - Note:** Must have a corresponding outage ticket in eDART if a capacity resource

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Portfolio:
Unit:
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Hourly Values
Apply To: 08-23

Defaults
Emergency Min 211.0
Economic Min 211.0
Economic Max 330.0
Emergency Max 330.0
Commit Status Not Available
Fixed Gen No

Unit Hourly Updates for on 12/27/2013

Hour Ending	Em. Min. Def.	Em. Min. MW	Ec. Min. Def.	Ec. Min. MW	CIR	Ec. Max. Def.	Ec. Max. MW	Em. Max. Def.	Em. Max. MW	Commit Status	Fixed Gen.	Notification Time
01	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
02	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
03	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	Economic	No	(null)
04	211.0											
05	211.0											
06	211.0											
07	211.0											
08	211.0											
09	211.0											
10	211.0											
11	211.0											
12	211.0											
13	211.0											
14	211.0											
15	211.0											
16	211.0	0.0	211.0	0.0	(null)	330.0	0.0	330.0	0.0	Not Available	No	(null)
17	211.0	165.0	211.0	165.0	(null)	330.0	330.0	330.0	330.0	MustRun	No	(null)

Fixed Gen - This field should be set to yes if a generation resource intends to remain “fixed” or otherwise not follow PJM real-time dispatch

Notification Time - This can override the daily scheduled, Hot, Cold, or Intermediate Notification Times

- Can only be changed during real-time operations

Generator/Unit Hourly Updates

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Unit Schedules Dispatch Lambda Market Results Regulation Market Synchronized Reserve Market Nonsynchronized Reserve Market DA Scheduling Reserve Market Con Ed Parameter Limits Interface Pricing Opportunity Cost Calculator

Unit Hourly Updates Unit Detail Energy Ramp Rates SyncRes Ramp Rates Weather Forecast Wind Forecast

Unit Hourly Updates Search

Portfolio: Don Unit: ERNST Hialeah 20 Steam Date: 02/03/2014 (mm/dd/yyyy) [Change Date](#) [Get Report](#) [Get CSV Report](#)

Hourly Values **Apply To:** 08-23 [Apply](#) [Use Unit Defaults](#)

Defaults: Emergency Min 20.0 Economic Min 20.0 Economic Max 118.0 Emergency Max 118.0 Commit Status Economic Fixed Gen No

Unit Hourly Updates for FANTASY Hialeah 20 Steam (21441120) on 02/03/2014

Hour Ending	Em. Min. Def.	Em. Min. MW	Ec. Min. Def.	Ec. Min. MW	CR	Ec. Max. Def.	Ec. Max. MW	Em. Max. Def.	Em. Max. MW	Commit Status	Fixed Gen	Notification Time
01	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
02	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
03	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
04	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
05	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
06	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
07	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
08	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
09	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
10	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
11	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
12	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
13	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
14	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
15	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
16	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
17	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
18	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
19	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
20	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
21	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
22	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
23	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)
24	20.0	20.0	20.0	20.0	(null)	118.0	116.0	118.0	116.0	Economic	No	(null)

Questions?