



Gas Unit Commitment Coordination Intraday Cost Schedule Update Functionality Review and Q&A Session

February 4, 2015

- ✓ Production Implementation Overview
- ✓ Intraday Cost Schedule Functionality Review
- ✓ Mandatory eMKT Fuel Field Review
- ✓ Open Q&A

The production deployment for the Intraday Cost Schedule Update functionality is scheduled for 2/9/15

The Energy Fuel Type and Startup Fuel Type data fields are **REQUIRED** to be entered for XML upload and the eMKT user interface to:

1- Participate in the Day Ahead Market on 2/9 for 2/10. The mandatory fields will be required to be entered by 12:00 noon.

2- Participate in the cost schedule update functionality process starting on 2/10. The Use Cost Schedule in Real Time box on the new Schedule Availability Update tab must be checked on 2/9 to update cost schedules starting on 2/10.

Name	Value	Name	Value
Description		Schedule Available	No
Market Type	Both	Energy Fuel Type	Other Other
Use Startup No Load	Yes	Startup Fuel Type	Other Other
Hot Startup Cost(\$)	112.11	Max Runtime (Hour)	168.00
Inter Startup Cost(\$)	112.11	Maximum Daily Starts Limit: 2	4
Cold Startup Cost(\$)	112.11	Max Weekly Energy(MW)	8517.0
No Load Cost(\$)	(null)	Maximum Weekly Starts Limit: 14	28

Changing Schedule Detail Screen via XML for Fuel Type Fields:

```

<EnergyFuelTypes> ← Field Name Change Required
  <Primary>Coal</Primary>
  <Sub>Bituminous 1.0 S</Sub> ← Required
</EnergyFuelTypes>
<StartupFuelTypes> ← Required
  <Primary>Gas</Primary>
  <Sub>Natural Gas</Sub> ← Required
</StartupFuelTypes>
  
```

? Where can I go for additional training on the Intraday Cost Schedule Update Functionality?

Detailed Training on the Intraday Cost Schedule Update functionality can be found in the Winter Webinar Slides 140-162

<http://www.pjm.com/~media/training/webex-documents/winter-weather-procedure-changes.ashx>

Intraday Cost Schedule Update functionality FAQs

<http://www.pjm.com/~media/etools/emkt/sandbox-intraday-cost-schedule-update-faqs.ashx>

The Intraday Cost Schedule Update functionality allows generators to more accurately reflect true cost of generation.

? When is the Intraday Cost Schedule functionality available for use?

Functionality will be available 365 days, not just during Cold or Hot Weather Alerts

? What is the criteria to utilize the functionality?

Units NOT committed in the Day-ahead or Reserve Adequacy Run (RAC) AND for hours after the last Day-ahead or Reserve Adequacy Run committed hour.

	DA Commitment	RAC Commitment	No Commitment
CT	Cost Switching allowed after the end of last DA committed Hour	N/A	<ul style="list-style-type: none"> • Cost Schedules may change hourly • Fixed on Schedule when committed
Steam	Cost Switching allowed after the end of last DA committed Hour	Cost Switching allowed after the end of last RAC committed Hour	<ul style="list-style-type: none"> • Cost Schedules may change hourly • Fixed on Schedule when committed



Intra-Day Cost Schedule Update Process Summary

Intraday Cost Schedule Functionality Summary:

1. Members **may** utilize the current 79 Cost-based schedules to reflect possible costs of generation (Schedules 1-69, 80-89)
2. Member **must** check the Use Cost Schedule in Real Time box on the new Schedule Availability Update tab between 1800-2100 the day prior to utilize the functionality

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

Schedule Offers | Schedule Detail | Schedule Manager | Schedule Selection | **Schedule Availability Update** | Schedule Restriction Info

Schedule Offers Search

Portfolio: 1 - ALL UNITS | Unit: | Schedule: ALL | Date: 02/04/2015 (mm/dd/yyyy) | | |

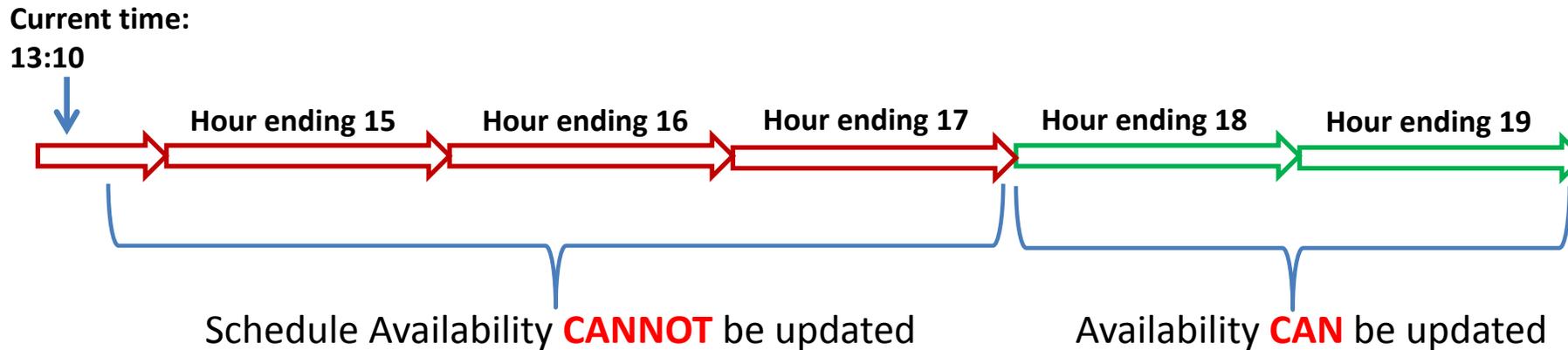
Fuel Type: ALL | Hour: 20 | Available: ALL

Generator Schedule Updates 02/04/2015 **Use Cost Schedule In Real-Time** Last Updated Date/Time:

Hour Ending	Schedule Name	Schedule Description	Schedule Type	Fuel Type	Available	Status	Notification Time
20	SGAS	CT SGAS	15-COST-PLS	Other	Available	Not Committed	(null)
20	CGAS	CT CGAS	16-COST-PLS	Other	Not Available	Not Committed	(null)

Intraday Cost Schedule Functionality Summary Continued:

3. Schedule availability can only be updated 4 hours into the future. Schedule changing is locked for the current hour plus 3 additional hours.



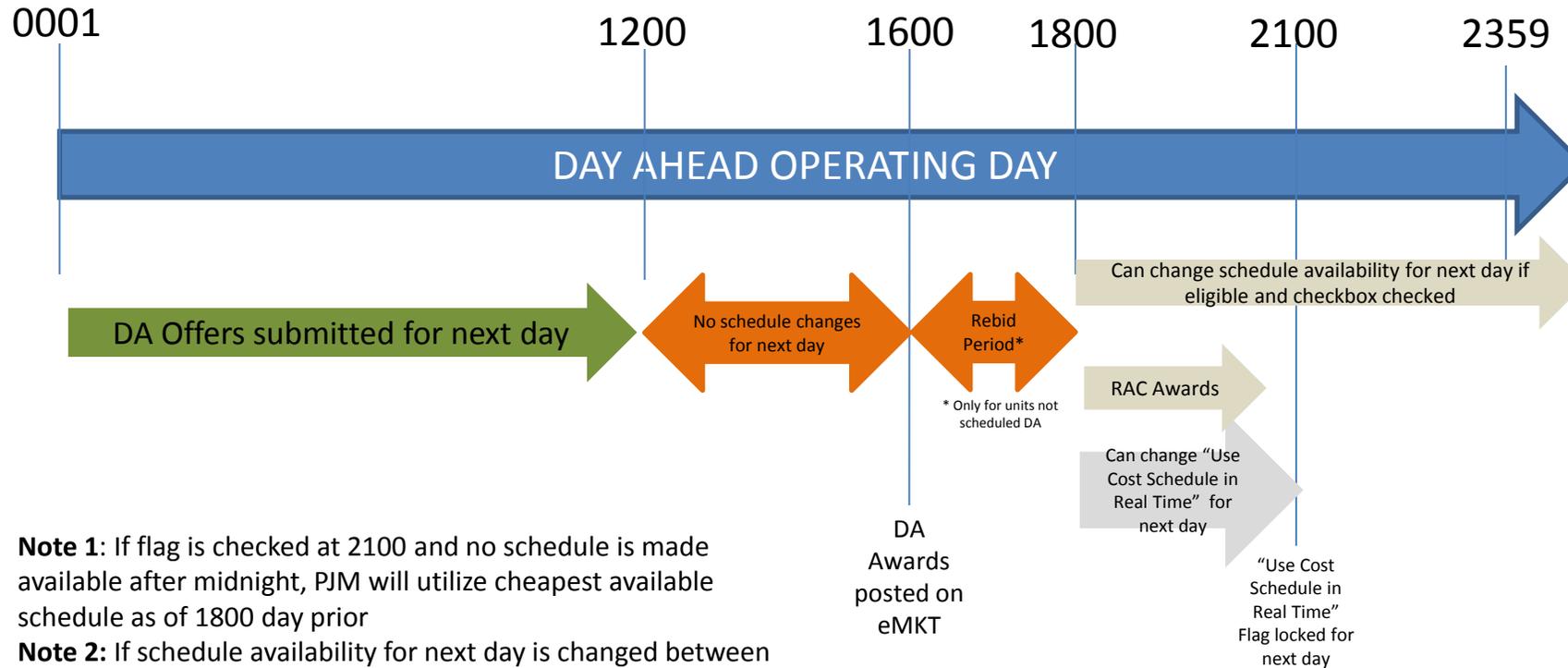
Availability in current hour and next 3 full hours cannot be changed

Example assumes unit is not currently running or current commitment ends at hour ending 1700

4. Only 1 Cost Schedule (per fuel type) can be made available each hour

Energy Fuel Type MUST be entered for Intraday Cost Schedule Functionality

Intraday Cost Schedule Functionality Summary Continued:



Note 1: If flag is checked at 2100 and no schedule is made available after midnight, PJM will utilize cheapest available schedule as of 1800 day prior

Note 2: If schedule availability for next day is changed between 1800 and 2100, but flag is not checked at 2100, PJM will utilize schedules available at 1800

The new eMKT fuel fields were deployed to the production environment on Thursday, January 29.

? Why do I need to enter data for the Energy Fuel Type and Startup Fuel Type data fields

The Energy Fuel Type and Startup Fuel Type data fields will be mandatory when the Intraday cost schedule update functionality is deployed to production. Data is required to participate in the Day Ahead Market and Intraday Cost Schedule Update process.

Please note: the field name Fuel Type has been updated to Energy Fuel Type

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  <Sub>Natural Gas</Sub> ← Required
</StartupFuelTypes>
  
```

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? What if data populated from the GO survey is incorrect?

Please update data in eMKT to accurately reflect information. Data has been mapped between two applications (eDart and eMKT) where models may be different and there may be no 1:1 match.

? What if the Energy Fuel Type is not available in the drop down?

In the short term, please use the best match that is currently available. PJM is working to incorporate additional Fuel Type options in eMKT.

The screenshot shows the 'Schedule Detail Search' form with the following fields:

- Portfolio: 1 - ALL UNITS
- Unit: [Empty]
- Date: 02/05/2015
- Schedule: PLS

Buttons: Get Report, Get CSV Report, Change Date, Submit

Last Updated Date/Time: 02/03/2015 12:15:18 PM

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Description		Schedule Available	No
Market Type	Both	Energy Fuel Type	Other Other
Use Startup No Load	Yes	Startup Fuel Type	Other Other
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REQUIRED to Submit Offers on 2/9 for 2/10:

- Energy Fuel Type and subtype AND Startup Fuel Type and subtype required for both XML upload and the eMKT user interface
- For XML users- Fuel Type → Energy Fuel Type

Utilize the Intraday Cost Schedule Update Functionality starting on 2/10:

- The Use Cost Schedule in Real Time box must be checked on 2/9

Open Q&A