



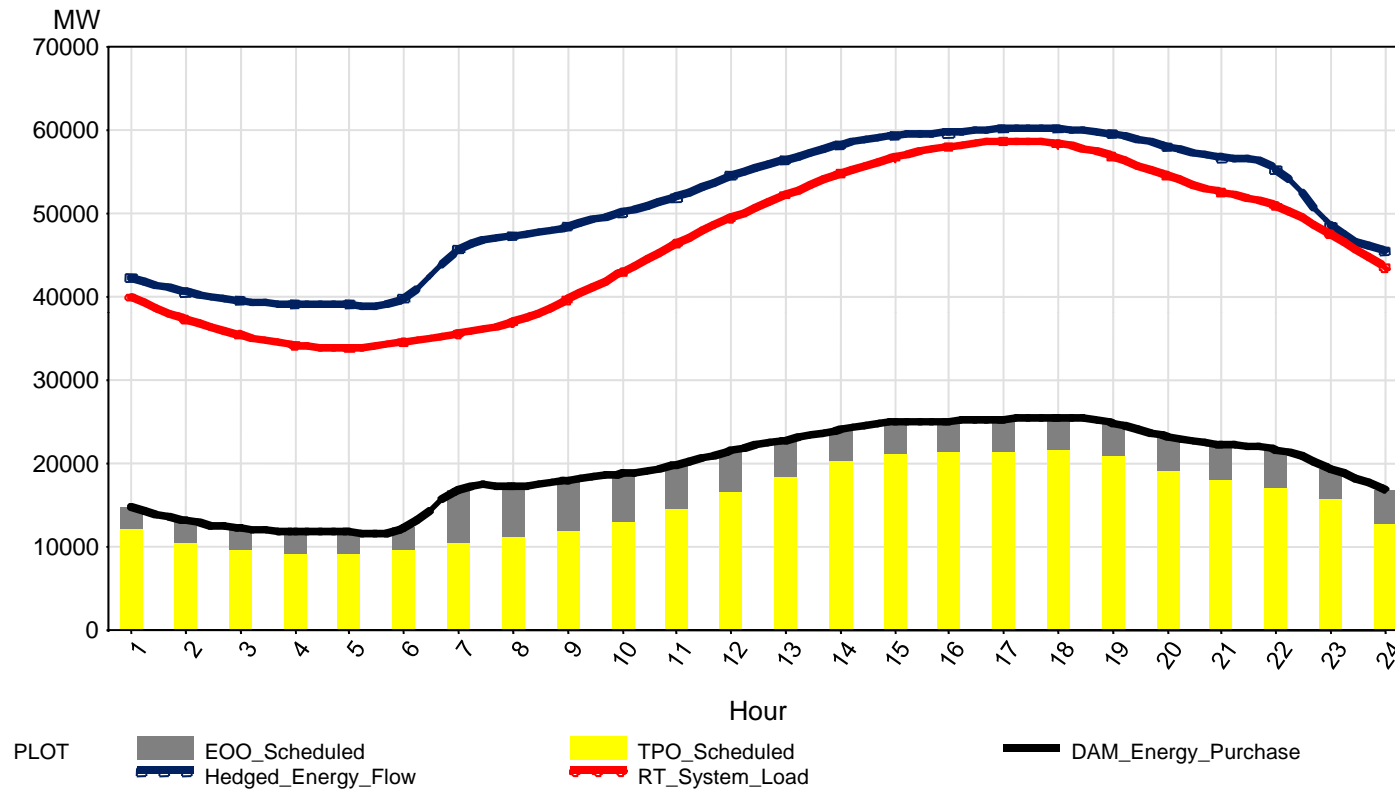
# Wholesale Market Operations Update

John Dumas  
Director, Wholesale Market Operations

Board of Directors Meeting  
July 19, 2011

# Day-Ahead Schedule

- Hedged energy exceeded the real time system load on average for all 24 hours

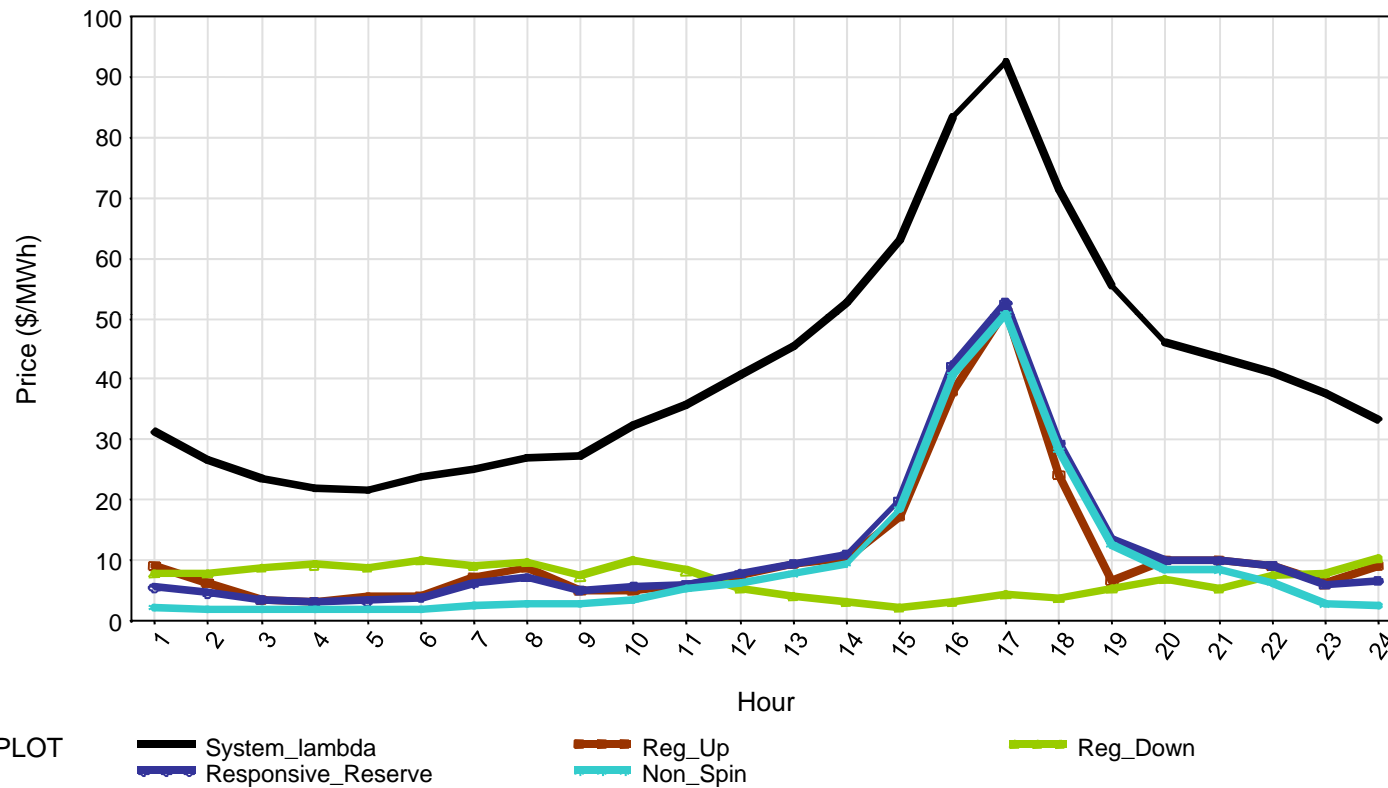


Average DAM Schedule

01JUN2011-30JUN2011

Acronym : TPO - Three Part Offer; EOO – Energy Only Offer;  
 Hedged Energy = Energy purchased /sold in Day-Ahead Market plus Point –to-Point Obligations and Options carried forward to real-time.

# Day-Ahead Electricity and Ancillary Service Hourly Average Prices

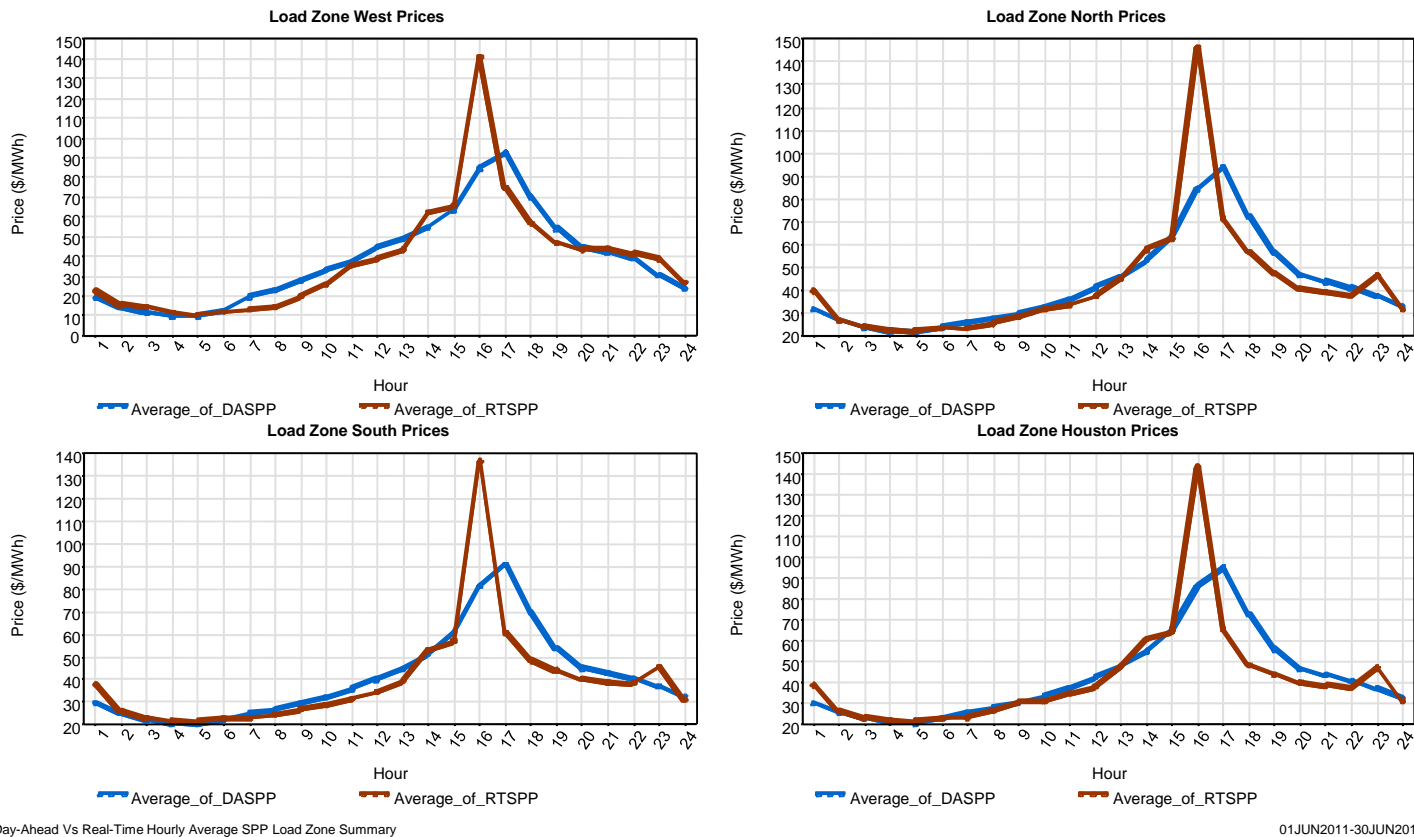


Day-Ahead Electricity and Ancillary Service Hourly Average Prices

01JUN2011-30JUN2011

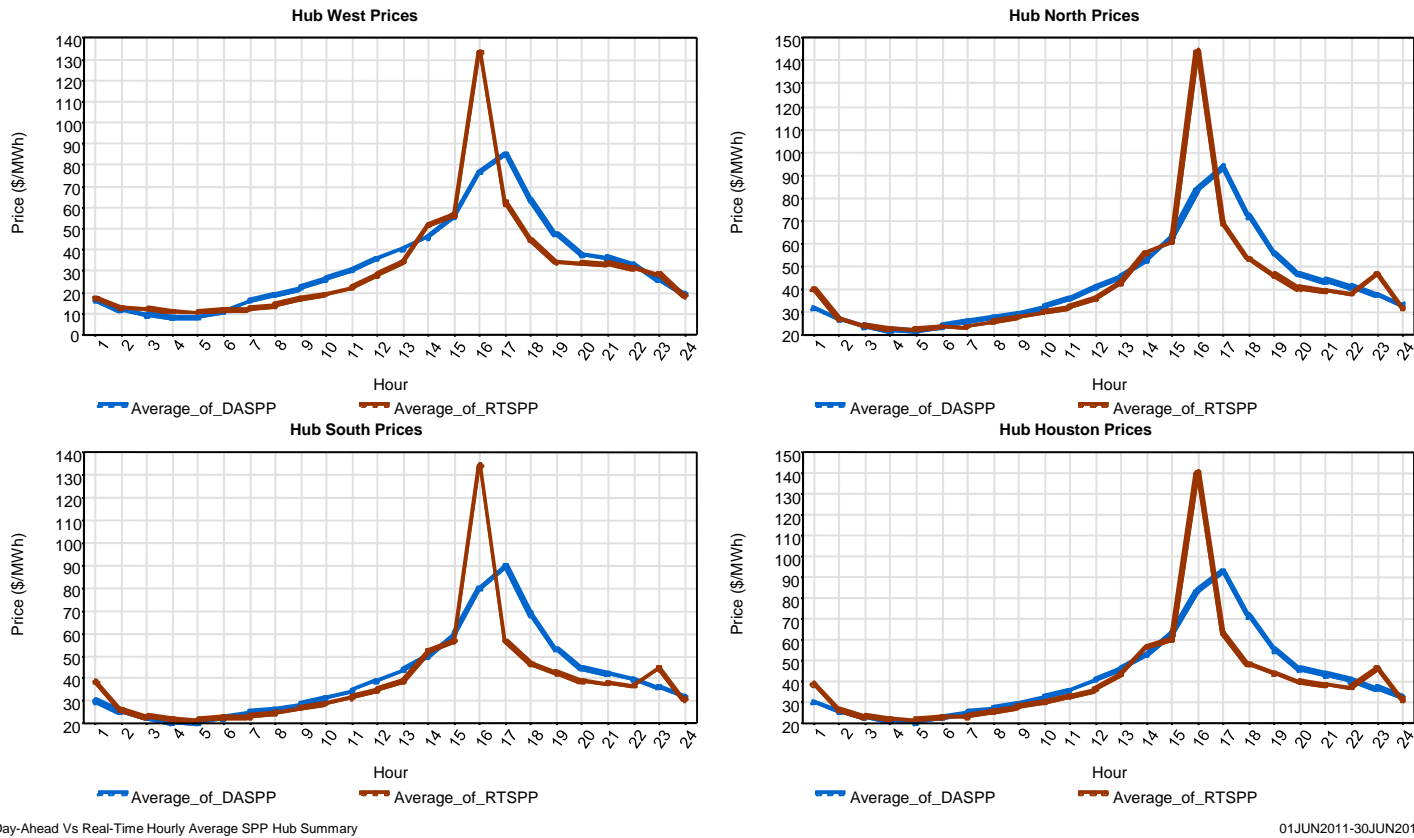
- Both Energy and AS prices followed the trend of load profile on average.

# Day-Ahead vs. Real-Time Load Zone SPP (Hourly Average)



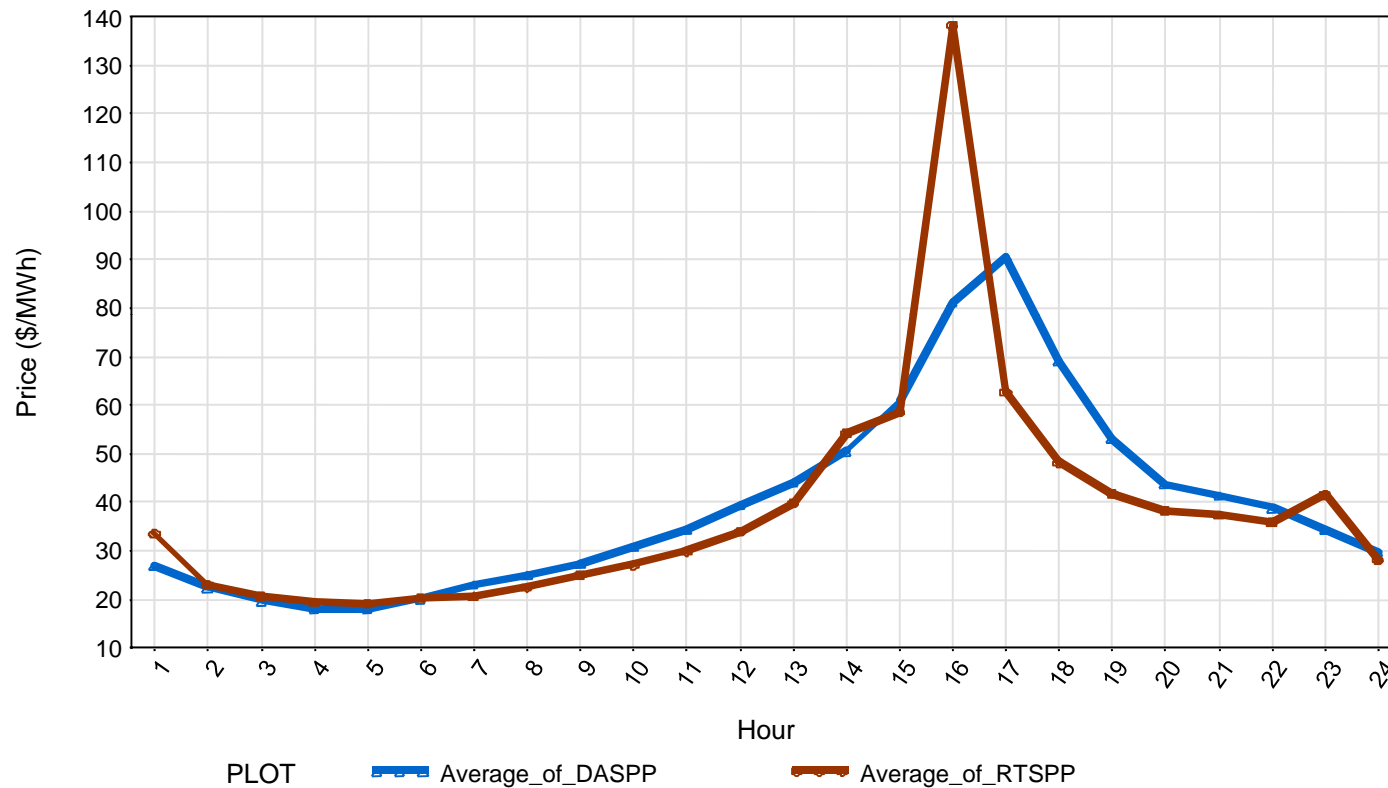
- SPPs in all four zones were very close.

# Day-Ahead vs. Real-Time HUB SPP (Hourly Average)



- HUB SPPs in all four hubs were very close.

# Day-Ahead vs. Real-Time Hub Average SPP (Hourly Average)

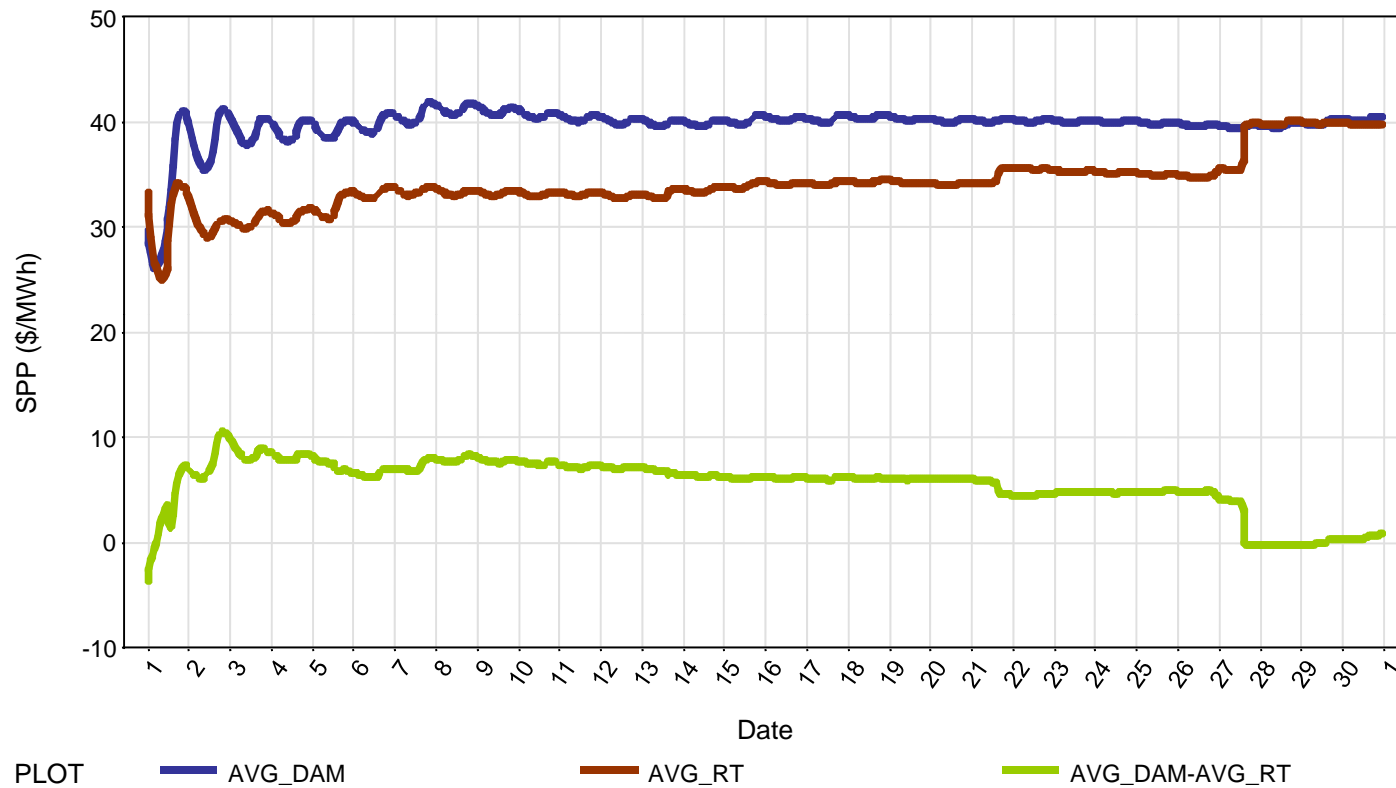


Day-Ahead Vs Real-Time Hourly Average SPP of Hub Hub-Average Prices

01JUN2011-30JUN2011

- Day Ahead prices were on average higher than real-time prices, especially during peak hours.
- Real-Time prices were much higher than Day Ahead prices at a few hours mainly due to violated constraints.

# Day-Ahead vs. Real-Time Cumulative Average SPP

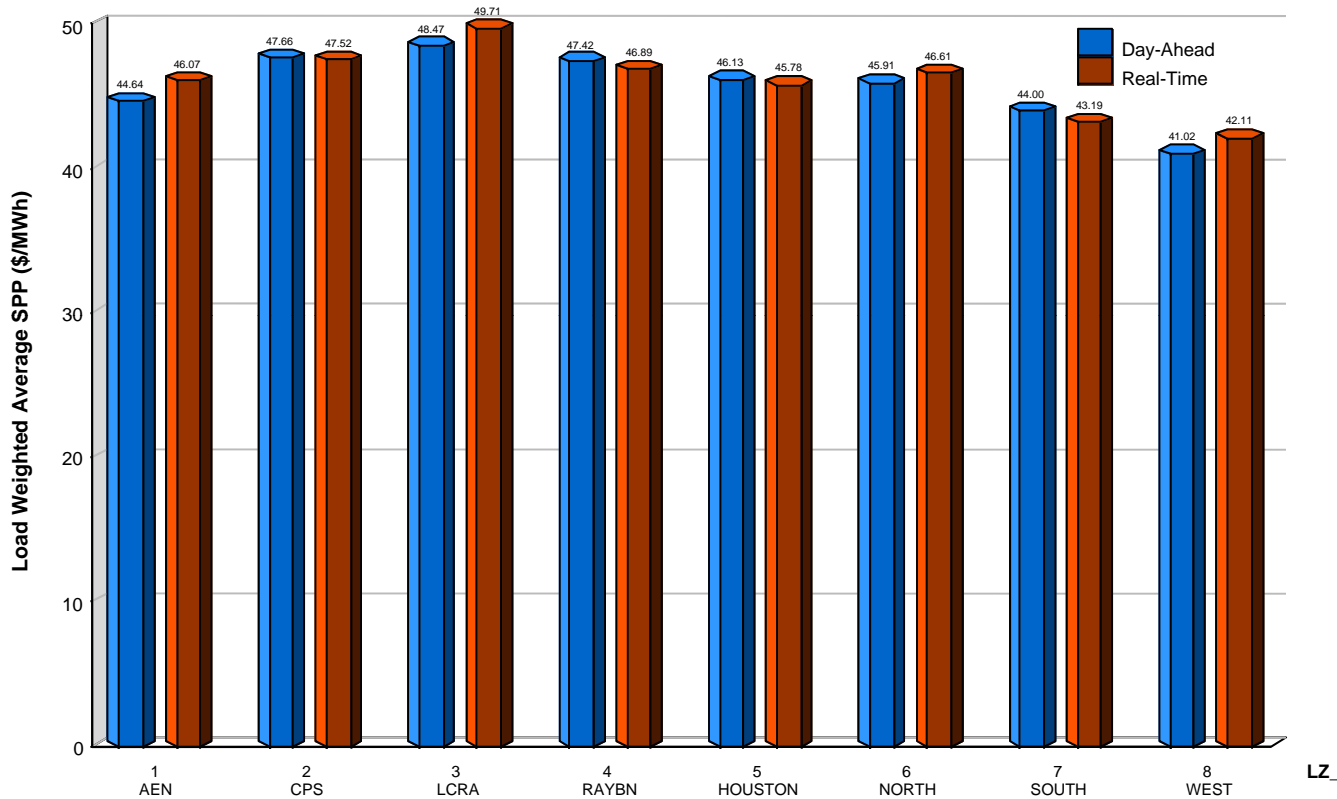


Day-Ahead Vs Real-Time Cumulative Average SPP for Simple Average Prices

01JUN2011-30JUN2011

- **Day Ahead prices exceed Real Time prices slightly**

# Load Weighted Average SPP



Load Weighted Average SPP for Each Zone

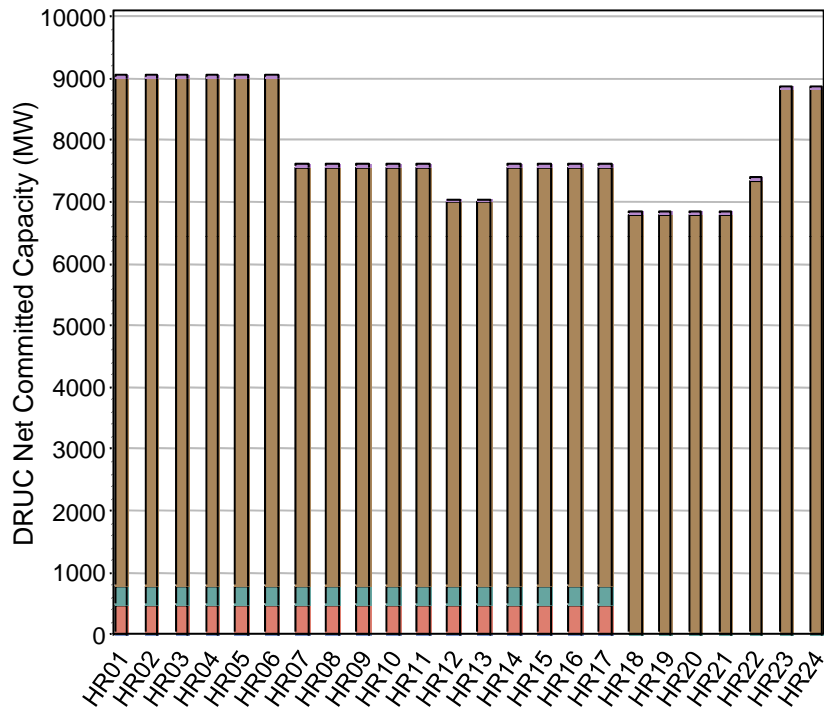
01JUN2011-30JUN2011

- The load weighted average RT SPPs were slightly higher than the load weighted average DA SPPs in 4 of the load zones and lower in the other 4 load zones.



# DRUC

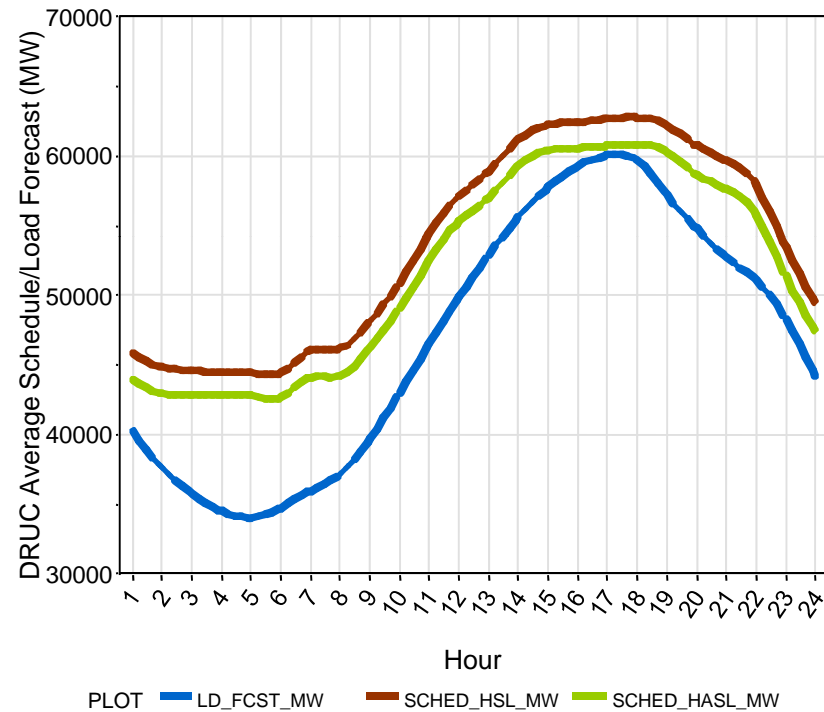
**30 Executions (0 Missed)**  
**6 Published after 1600; 0 Published after 1800**



Net Committed Capacity in DRUC

01JUN2011-30JUN2011

**26.1-Min Average Execution Time**  
**189367 MWh Committed (5 Resources for 404 Hours)**

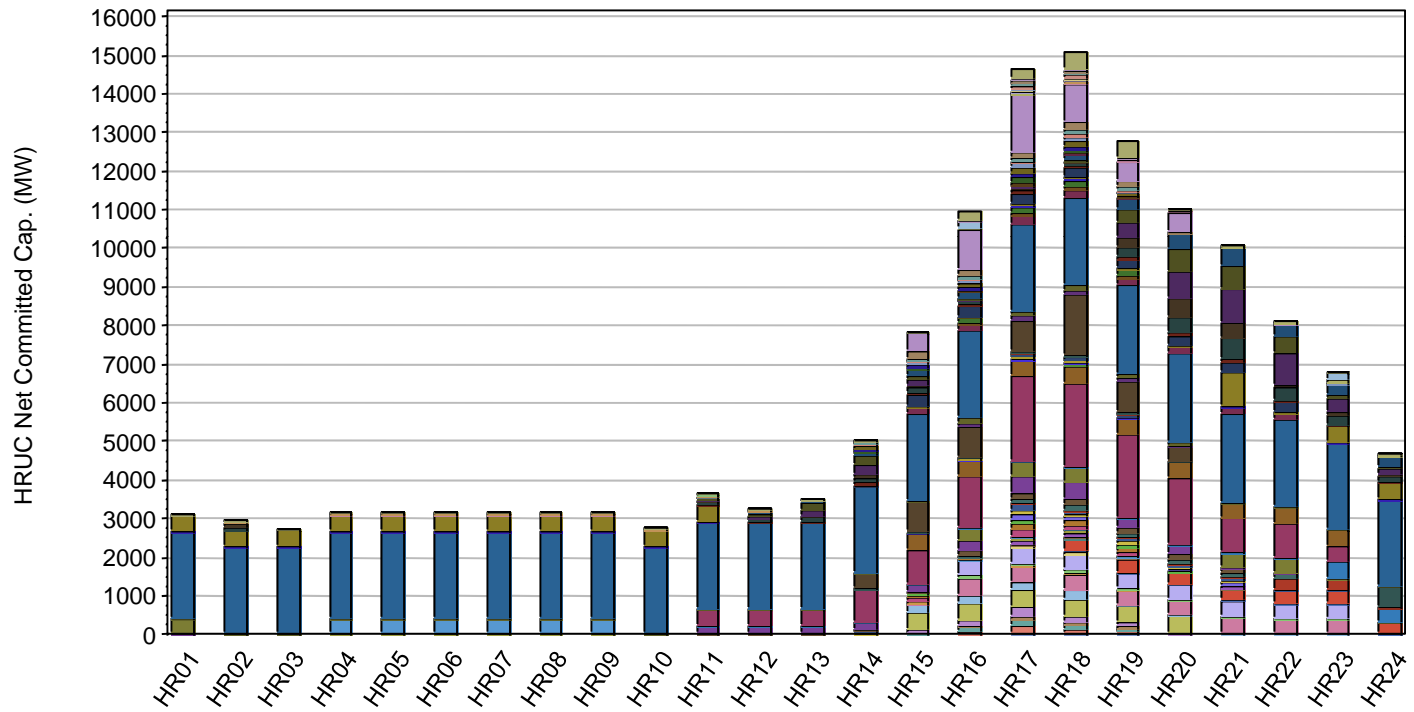


DRUC Average GSE Scheduled Capacity/Load Forecast

01JUN2011-30JUN2011

# HRUC

**718 Executions (2 Missed)**  
**17.0-Min Average Execution Time**

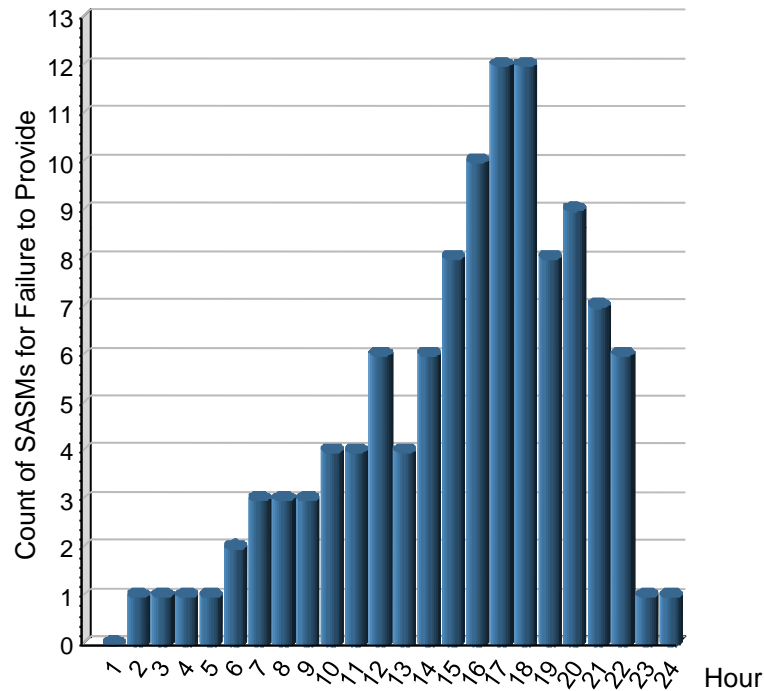


Net Committed Capacity in HRUC

01JUN2011-30JUN2011

# Supplemental Ancillary Service Market (SASM)

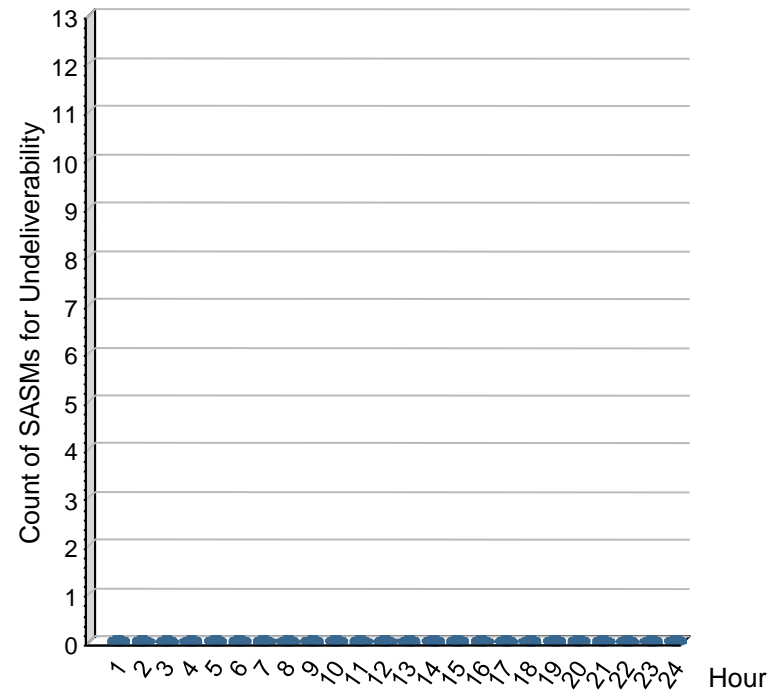
**23 SASMs in 01JUN2011-30JUN2011  
For AS Failure to Provide**



Count of SASMs for Failure to Provide by Hour

01JUN2011-30JUN2011

**0 SASMs in 01JUN2011-30JUN2011  
For AS Undeliverability**



Count of SASMs for Undeliverability by Hour

01JUN2011-30JUN2011

## CRR Auction for Operating Month July thru December 2011

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- **63,646 Bids/Offers**
- **16,240 Auction Awards**
  - **571,277.9 MW**
    - **205,605.6 Peak WD**
    - **189,731.2 Peak WE**
    - **175,941.1 Off-peak**
- **Total Auction/Allocation Revenue = \$ 155.923 M**

## CRR Auction for Operating Month July 2011

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- **173,593 Bids/Offers**
- **12,704 Auction Awards**
  - **180,888.0 MW**
    - **61,666.8 Peak WD**
    - **58,315.5 Peak WE**
    - **60,905.7 Off-peak**
- **Total Auction/Allocation Revenue = \$ 23.577 M**  
**excludes \$1.332 M for Sells**

## CRR Price Convergence

	May 2011	April 2011	March 2011	February 2011	January 2011
Net Amount Paid for CRRs (Cost)	\$31.4M	\$20.4M	\$20.2M	\$15.0M	\$16.4M
Net Amount Paid to Account Holders for TCRs/CRRs (Value)	\$41.5M	\$24.8M	\$19.6M	\$80.2M	\$17.8M
Convergence (Value/Cost)	132.1%	121.5%	96.8%	534%	109%

# Nodal Market Challenges after Four Months of Operation

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- **Pricing of De-energized Resource Nodes**

- Inconsistent pricing between DAM and Real-Time due to de-energized Resource Nodes getting assigned System Lambda in Real-Time
  - Addressed on January 31<sup>st</sup> by adding 609 Electrical Buses to 140 stations.
  - Submitting recommendation to correct prices
- Inconsistent pricing between DAM and Real-Time due to split bus station and de-energized Resource Nodes getting assigned average LMP at same kV in station
  - Addressing through short term (NPRR339) and long term approach.

- **Settlement Points may be incorrect related to certain PTP scenarios**

- Under certain scenarios the post processing of some Settlement Points may be incorrect. The scenario is related to a single PTP between an energized and a de-energized Settlement Point and there is no other PTP at the energized Settlement Point then the energized Settlement Point may have a wrong price.
  - DAM MW awards are correct
  - Implementing and testing a fix
  - Implemented price correction before the prices are final until fix is migrated to production
  - Investigating the extend of the impact and potential need for price correction