



# Tab 5: Operations Report (Jul & Aug 2012)

H.B. "Trip" Doggett  
President & Chief Executive Officer

Board of Directors Meeting  
ERCOT Public  
September 18, 2012

- **July 2012 Operations**

- The peak demand of 65,835 MW on July 31<sup>st</sup> was greater than the mid-term forecast peak of 64,700 MW and more than the July 2011 actual peak demand of 65,432 MW. The instantaneous peak on July 31<sup>st</sup> was 65,934 MW.
- Day-ahead load forecast error for July was 2.85%
- No Advisories for Physical Responsive Capability (PRC) below 3000 MW issued
- One Watch for PRC under 2500 MW issued July 30 due to multiple unit trips
- No Energy Emergency Alert (EEA) events

- **Planning Activities**

- 133 active generation interconnection requests totaling over 35,000 MW, including 20,000 MW of wind generation. This is two more requests, with MW essentially unchanged, since June 30, 2012
- 10,035 MW wind capacity on line July 31, 2012; No change from June 30, 2012

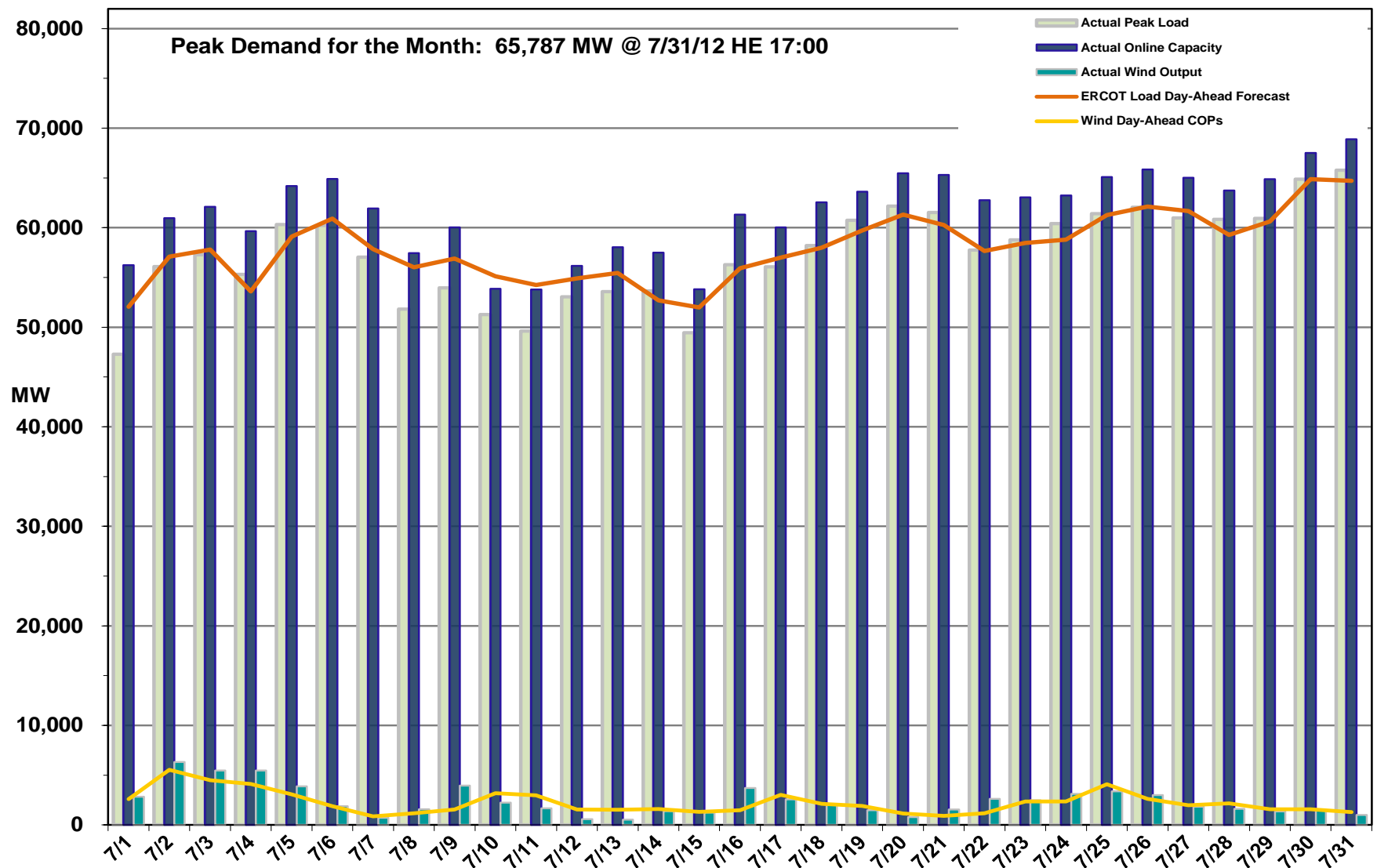
- **August 2012 Operations**

- The peak demand of 66,489 MW on August 1<sup>st</sup> was greater than the mid-term forecast peak of 65,276 MW and less than the August 2011 actual peak demand of 68,379 MW. The instantaneous load on August 1<sup>st</sup> was 66,703 MW.
- Day-ahead load forecast error for August was 2.96%
- No Advisories for Physical Responsive Capability (PRC) below 3000 MW issued
- No Watches for PRC under 2500 MW issued
- No Energy Emergency Alert (EEA) events issued

- **Planning Activities**

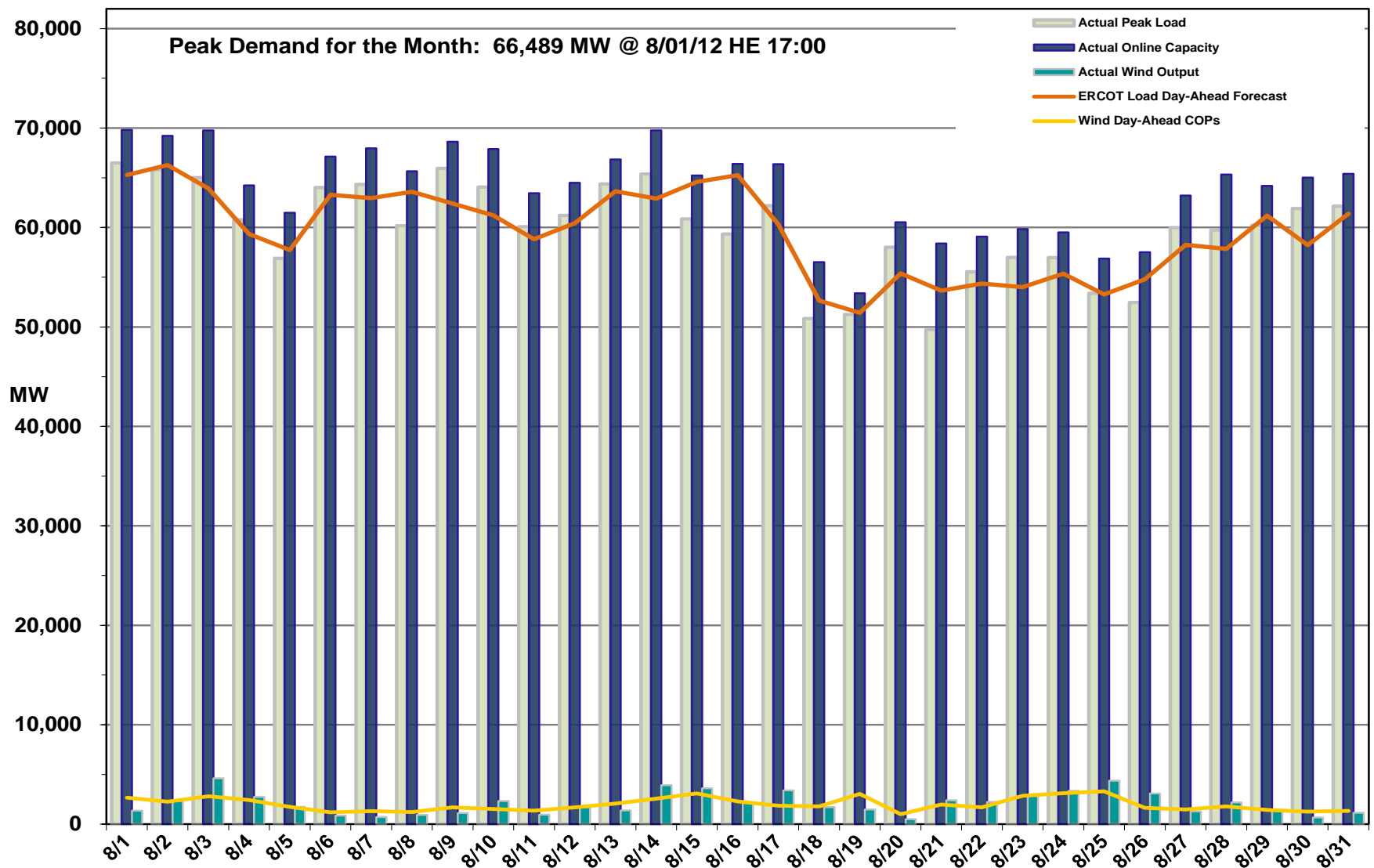
- 140 active generation interconnection requests totaling over 37,000 MW, including 21,000 MW of wind generation. This is seven more requests, and 2,000 MW more, since July 31, 2012
- 10,035 MW wind capacity on line August 31, 2012; No change from July 31, 2012

# July 2012 Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak



Note: All data are hourly averages during the peak load hour obtained from COPs, and EMMS.

# August 2012 Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak



Note: All data are hourly averages during the peak load hour obtained from COPs, and EMMS.

# Market Statistics – July 2012

Market Statistics	Jul 2011	Jul 2012	2011 Average	2012 YTD Average
Percentage of Real-Time load hedged in Day-Ahead Market	106.80%	117.24%	115.13%	122.18%
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Day-Ahead Market (\$/MWh)	57.10	32.34	55.19	28.21
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Real-Time (\$/MWh)	47.63	27.91	50.83	25.73

# Market Statistics – August 2012

Market Statistics	Aug 2011	Aug 2012	2011 Average	2012 YTD Average
Percentage of Real-Time load hedged in Day-Ahead Market	103.04%	116.96%	115.13%	121.53%
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Day-Ahead Market (\$/MWh)	185.50	44.54	55.19	30.77
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Real-Time (\$/MWh)	153.83	30.64	50.83	26.50

# Operational Performance Measures – July 2012

Performance Measure	Target Met	Further Information
Retail Transaction Performance (Target 98%)	Yes	<ul style="list-style-type: none"><li>Retail transaction processing performance was at 99.9%</li></ul>
Settlements Performance (Target 99%)	Yes	<ul style="list-style-type: none"><li>100% timely statement and invoice posting</li></ul>



# Operational Performance Measures – August 2012

Performance Measure	Target Met	Further Information
Retail Transaction Performance (Target 98%)	Yes	<ul style="list-style-type: none"><li>• Retail transaction processing performance was at 99.9%</li></ul>
Settlements Performance (Target 99%)	No	<ul style="list-style-type: none"><li>• Percent of transactions processed within the settlement calendar was 98.39%.</li><li>• Payout of Default Uplift Invoices was scheduled for 8/31/12 but was delayed due to system issues experienced as a result of a short-payment of a Default Uplift Invoice.</li><li>• The system issues have been resolved. Additionally, staff is evaluating a change to business processes that would allow more time to resolve system issues prior to the deadline for Financial Transfer.</li></ul>

# Operational Dashboard – July 2012

Metric	Trending as Expected	Further Information
Day-Ahead Schedule	Yes	<ul style="list-style-type: none"> <li>Normal level of market activity and liquidity.</li> <li>Loads appear to have hedged against exposure to Real-Time prices</li> </ul>
Day-Ahead Electricity And Ancillary Service Hourly Average Prices	Yes	<ul style="list-style-type: none"> <li>Hourly average prices correctly reflected the opportunity cost of energy and Ancillary Services</li> <li>They were lower than June for afternoon peak hours due to relatively milder congestion in West Zone</li> </ul>
Day-Ahead vs Real-Time Load Zone Settlement Point Price (Hourly Average)	Yes	<ul style="list-style-type: none"> <li>Day-Ahead &amp; Real-Time prices for different Load Zones reflect relative transmission congestion</li> </ul>
Day-Ahead vs Real-Time Trading Hub Settlement Point Price (Hourly Average)	Yes	<ul style="list-style-type: none"> <li>The average energy price across the system reflects marginal offers and scarcity pricing impacts</li> <li>Average Day-Ahead prices were slightly higher only for afternoon peak hours, reflecting the risk premium between Day-Ahead &amp; Real-Time in July</li> </ul>
Day-Ahead Reliability Unit (DRUC) Commitment Monthly Summary	Yes	<ul style="list-style-type: none"> <li>This month, one resource was committed in DRUC for one hour of one Operating Day</li> <li>Capacity committed by the DRUC process indicates minimal level of out-of-market activity needed Day-Ahead to maintain reliability</li> </ul>

# Operational Dashboard – August 2012

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Day-Ahead Schedule	Yes	<ul style="list-style-type: none"> <li>Normal level of market activity and liquidity</li> <li>Loads appear to have hedged against exposure to Real-Time prices</li> </ul>
Day-Ahead Electricity And Ancillary Service Hourly Average Prices	Yes	<ul style="list-style-type: none"> <li>Hourly average prices correctly reflect the opportunity cost of energy</li> </ul>
Day-Ahead vs Real-Time Load Zone Settlement Point Price (Hourly Average)	Yes	<ul style="list-style-type: none"> <li>Day-Ahead &amp; Real-Time prices for different Load Zones reflect relative transmission congestion</li> </ul>
Day-Ahead vs Real-Time Trading Hub Settlement Point Price (Hourly Average)	Yes	<ul style="list-style-type: none"> <li>The average energy price across the system reflects marginal offers and scarcity pricing impacts</li> <li>Higher average Day-Ahead energy prices reflect the risk premium between Day-Ahead &amp; Real-Time</li> </ul>
Day-Ahead Reliability Unit (DRUC) Commitment Monthly Summary	Yes	<ul style="list-style-type: none"> <li>Capacity committed by the DRUC process indicates the level of out of market activity needed Day-Ahead to maintain reliability</li> <li>No resource was committed in DRUC in this month</li> </ul>

# Operational Dashboard – July 2012

Metric	Trending as Expected	Further Information
Hourly Reliability Unit Commitment (HRUC) Monthly Summary	Yes	<ul style="list-style-type: none"><li>No Resource was committed by the HRUC process to resolve local congestion</li></ul>
Supplemental Ancillary Service Market Monthly Summary	Yes	<ul style="list-style-type: none"><li>Normal trend indicates that deliverability was not a major concern</li></ul>
Non-Spinning Reserve Service Deployment	Yes	<ul style="list-style-type: none"><li>Offline Non-Spin was deployed this month</li></ul>
Congestion Revenue Rights Price Convergence	No	<ul style="list-style-type: none"><li>The total CRR value was about 1.6 times the total CRR cost</li><li>CRRs were valued much higher in Day Ahead due to combination of outages, low wind and high load</li></ul>

# Operational Dashboard – August 2012

Metric	Trending as Expected	Further Information
Hourly Reliability Unit Commitment (HRUC) Monthly Summary	Yes	<ul style="list-style-type: none"><li>Capacity committed by the HRUC process indicates the level of out of market activity needed during the Operating Day to maintain reliability</li><li>Four resources were committed for to resolve congestion in this month</li></ul>
Supplemental Ancillary Service Market Monthly Summary	Yes	<ul style="list-style-type: none"><li>Normal trend indicates that deliverability was not a major concern</li></ul>
Non-Spinning Reserve Service Deployment	Yes	<ul style="list-style-type: none"><li>Offline Non-Spin was deployed this month</li></ul>
Congestion Revenue Rights Price Convergence	No	<ul style="list-style-type: none"><li>The total CRR value was about 2 times the total CRR cost</li><li>CRRs were valued much higher in Day-Ahead mainly due to combination of outages, low wind and high load</li></ul>

# Operational Dashboard – July 2012

Metric	Trending as Expected	Further Information
Retail Transactions	Yes	<ul style="list-style-type: none"><li>Seasonal variations in transaction volumes trending as expected</li></ul>
Advanced Metering	Yes	<ul style="list-style-type: none"><li>88.9% of ERCOT load settled with 15-minute interval data.</li><li>5.5M Advanced Metering System (AMS) Electric Service Identifier (ESIID)s included in settlement.</li></ul>
Settlement Dollars	Yes	<ul style="list-style-type: none"><li>The daily average settlement dollars charged to the market was \$10.9M, down from nearly \$13M last month.</li></ul>
Revenue Neutrality	Yes	<ul style="list-style-type: none"><li>Revenue Neutrality charges to load slightly more than \$11M, which is higher than previous months and July 2011.</li></ul>
Market-Based Uplift to Load	Yes	<ul style="list-style-type: none"><li>The market-based uplift to load was a credit of \$16.2M. An increase in the payout from the Balancing Account was a contributing factor</li></ul>

# Operational Dashboard – August 2012

Metric	Trending as Expected	Further Information
Retail Transactions	Yes	<ul style="list-style-type: none"> <li>Seasonal variations in transaction volumes trending as expected</li> </ul>
Advanced Metering	Yes	<ul style="list-style-type: none"> <li>90% of ERCOT load settled with 15-minute interval data.</li> <li>5.6M Advanced Metering System (AMS) Electric Service Identifier (ESIID)s included in settlement as of 8/29/2012*</li> </ul>
Settlement Dollars	Yes	<ul style="list-style-type: none"> <li>As of settlement of Operating Day 8/28/12, the daily average settlement dollars are trending to be near \$13M, which is higher than July but similar to June.*</li> </ul>
Revenue Neutrality	Yes	<ul style="list-style-type: none"> <li>As of settlement of Operating Day 8/28/12, Revenue Neutrality uplift is trending near \$9.0M, which is higher than previous months.*</li> </ul>
Market-Based Uplift to Load	Yes	<ul style="list-style-type: none"> <li>As of settlement of Operating Day 8/28/12, the market-based uplift to load is trending as a credit to load, largely due to anticipated increased payments for CRR Auction revenues and Balancing Account.*</li> </ul>

\* For full month detail refer to the Monthly Operational Overview.

# Market Enhancements Under Consideration

Enhancement	Further Information
Evaluating market design improvement proposals	<ul style="list-style-type: none"><li>• NPRR444 to address<ul style="list-style-type: none"><li>• 0 to LSL of RUC, RMR, Non-Spin and Quick Starts</li><li>• ERS deployments</li><li>• Load Resource deployments</li></ul></li><li>• Competitive Constraint Test design improvements</li><li>• CRR rolling auction to be implemented in Spring 2013</li></ul>
Evaluating Pilot Project Feasibility	<ul style="list-style-type: none"><li>• 30-minute ERS Pilot started on July 15, 2012</li><li>• Fast response regulation service pilot scheduled to begin in last quarter of 2012 or first quarter of 2013</li></ul>
Look-Ahead SCED	<ul style="list-style-type: none"><li>• NPRR351 - Updated logic implemented on August 29<sup>th</sup> to help resolve observed issues</li><li>• Working with Market Participants to draft scope for future stages of Look Ahead SCED</li></ul>



# Major Project Highlights

Project	Trending as Expected	Further Information
SCR760 – Recommended Changes Needed for Information Model Manager and Topology Processor for Planning Models	Yes	Working with vendor to fully define the requirements for SCR760-1 and SCR760-6, the final enhancements in the SCR760 suite. Target release to production at end of June 2013
EMS Upgrade – Upgrade EMS and OTS from ALSTOM EMP 2.3 to EMP 2.7	Yes	Project is in the initial planning phase. A contract with EMS vendor, ALSTOM, has been signed to assess impacts of changes resulting from the upgrade. ERCOT project team has also started the initial task of identifying subsystems that contain custom code and the extent of that customization.
Oracle 11g Upgrade – Upgrade Oracle databases and related tools that support ERCOT's application portfolio from Oracle 10g to Oracle 11g.	Yes	Project continues on schedule and is expected to gate into Execution phase in September. Currently completing validation of the upgrade techniques to be used during Execution to deliver the upgrades.
NPRR347/400 – Combines the DAM and the Real-Time Market Invoices into a single daily Settlement Invoice; Eliminate Unsecured Credit for CRR Auctions and for Future Credit Exposure (FCE); Eliminate netting of FCE with Current Credit Exposure (CCE)	Yes	Project continues on schedule and on budget with core system changes. Migration to integration environment is scheduled for the week of September 10. Full integration testing is scheduled to begin September 17.
Settlement System Upgrade – Replace proprietary code, data structures and tools with an ERCOT supported solution	No	Earned value analysis indicates risk to schedule due to shifting of project resources to other higher priorities. The result is delay in delivery of framework sub-components which could put completion of the overall framework milestone at risk. The team is investigating options for schedule recovery.
CRR Upgrade – Upgrades the CRR clearing engine and associated components to Linux in order to provide measurable performance improvements in the annual auction	Yes	The aggressive schedule remains a risk to deliver improvements in time to support running the upgrade in parallel with existing CRR functionality during the October annual auction activities. Delivery of code from vendor expected in early September; project still on track for an October delivery to parallel production environment.

# Projects with Red or Yellow Status

Project	Trending as Expected	Further Information
Macomber Map NERC/SA Compliance Enhancements	No	Planning phase about to complete, but took longer than expected for completion of design activities. Project will be gating to Execution phase in mid-September. Costs are tracking to revised budget that was increased to accommodate Planning schedule extension.
NPRR354, Revisions to Non-Spin Performance Criteria Language and Provision for ICCP Telemetry of Non-Spin Deployment	No	Slight delay in go-live by several days, but report was released to production in mid-August. Project signoff documentation and transitioning to closing phase in process.
NPRR357, Revisions to Collateral Requirements Concerning CRR Auctions	No	Business team needed more time to test the enhancement and to run regression tests, resulting in increase to budget. Still on schedule for planned release date in September.

## Updates on

- Emergency Response Service (ERS)
- 500MW Transfer from Non-spin to RRS
- Offer Floor at SWCAP for RUC Committed Generators

# Emergency Response Service (ERS)

- **10-Minute ERS (June to September 2012 Standard Contract Term)**

	<b>Bus. Hrs. 1</b> HE 0900 – 1300, M-F except Holidays	<b>Bus. Hrs. 2</b> HE 1400 – 1600, M-F except Holidays	<b>Bus. Hrs. 3</b> HE 1700 – 2000, M-F except Holidays	<b>Non-Bus. Hrs.</b> All Other Hours
Capacity Offered (MW)	516.68	364.90	357	455.49
Capacity Procured (MW)	513.08	364.90	357	451.9
Avg. Cost (\$/MW/h)	8.70	9.67	9.97	8.83

- **First time ERCOT received over 500 MW of capacity**
- **First time Generators have offered into the program**
  - 4 Self Serving Generators awarded
  - BH1-6.65 MW, BH2-4.40 MW, BH3-4.40 MW, NBH-4.75 MW

# Emergency Response Service (ERS)

- **30-Minute ERS Pilot (July 15 to September 2012 Standard Contract Period)**

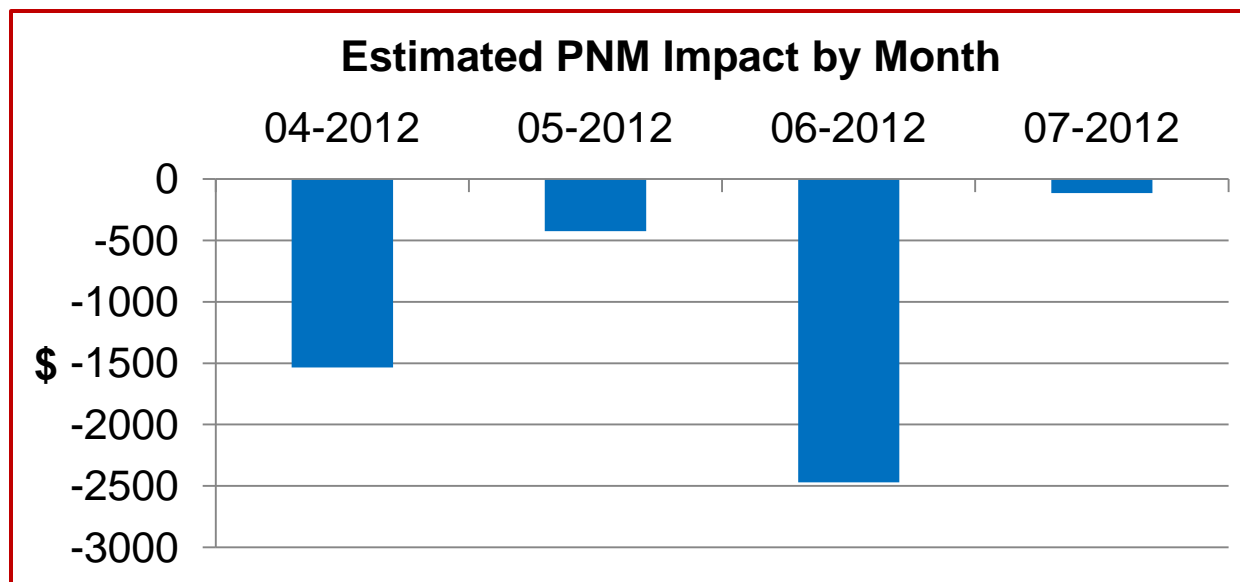
	<b>Bus. Hrs. 1</b> HE 0900 – 1300, M-F except Holidays	<b>Bus. Hrs. 2</b> HE 1400 – 1600, M-F except Holidays	<b>Bus. Hrs. 3</b> HE 1700 – 2000, M-F except Holidays	<b>Non-Bus. Hrs.</b> All Other Hours
Capacity Offered (MW)	19.4	16.25	15.8	9.5
Capacity Procured (MW)	19.4	16.25	15.8	9.5
Clearing Price (\$/MW/h)	11.00	16.00	16.00	11.00

- **30-Minute Ramp Product**
- **Using Clearing Price mechanism instead of Pay-As-Bid**
- **First time Residential customers are awarded – 284 residential sites in one aggregated ERS Resource**
- **Three new players – 1 new QSE and 2 new companies being represented by an existing QSE**

- **As of 4/1/12, the methodology for determining minimum Ancillary Service requirements changed to have 500 MW more of RRS procured and 500 MW less of Non-spin procured**
- **This change was expected to impact:**
  - The Peaker Net Margin (PNM)
  - The cost of Ancillary Services

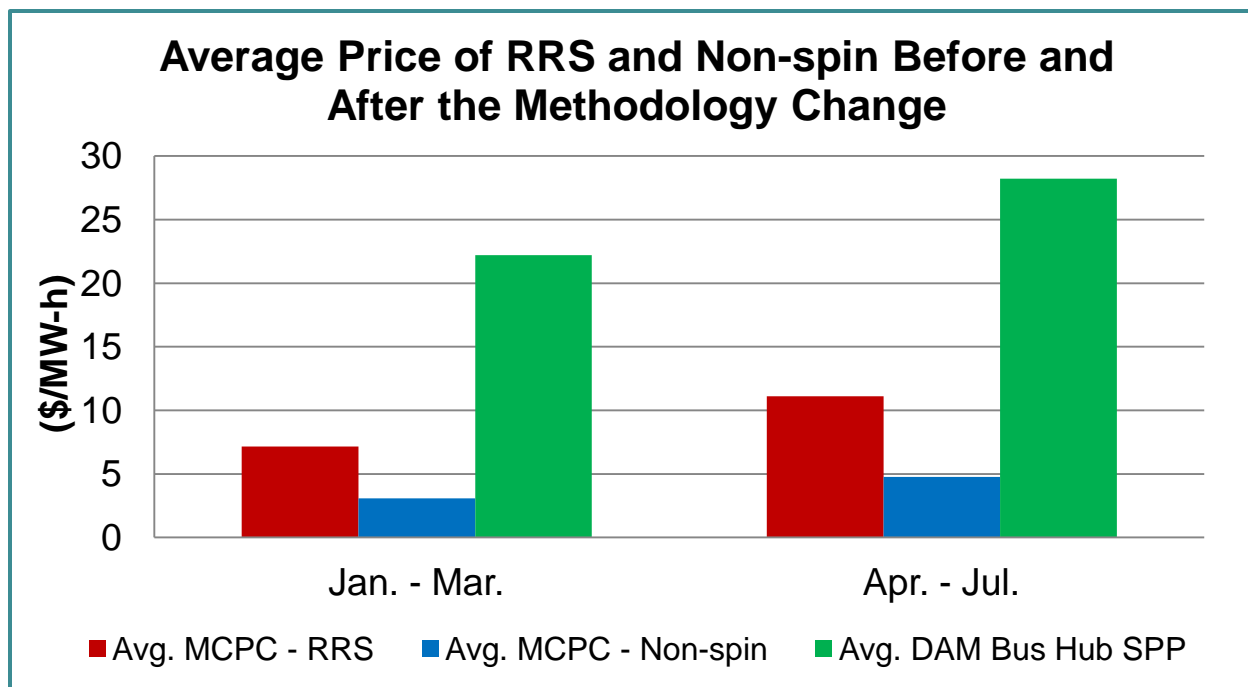
## 500 MW Transfer from Non-spin to RRS

- **A back-cast was done which estimated the total impact on PNM from April through July to be \$4,540.09**
  - This means that PNM is approximately \$4,540 higher as a result of the change
  - The value of PNM as of 8/1/12 was \$23,580.97



## 500 MW Transfer from Non-spin to RRS

- **The average hourly cost of Non-spin and RRS is higher**
  - The clearing price for both Non-spin & RRS has gone up by approximately 50% even though the amount of Non-Spin MWs procured has decreased
  - A portion of the Ancillary Service increase is likely due to the differences in the DAM energy prices between these two periods





# Offer Floor at SWCAP for RUC Committed Generators

- **NPRR 435 was approved in February of 2012 and took effect at the beginning of March**
- **This NPRR requires that Generators committed as part of the RUC process have an EOC that prices the Resource's energy at the SWCAP**
- **Between the beginning of March and the end of August, there were 18 Resource commitments for blocks of continuous hours (13 distinct Operating Days)**
  - Commitments primarily for local voltage or congestion
  - The average total LSL of committed Resources during SCED intervals with commitments was 106 MW
- **Concerns with QSEs not submitting EOCs at the SWCAP**
  - Working with QSEs to resolve issues

The ***ERCOT Monthly Operational Overview*** will be posted to (<http://www.ercot.com/committees/board/>) on the 15<sup>th</sup> day of the following month