



## **Item 4.3: Operations Report**

**(Mar & Apr 2013)**

*Trip Doggett*  
President & CEO

Board of Directors Meeting  
ERCOT Public  
May 14, 2013

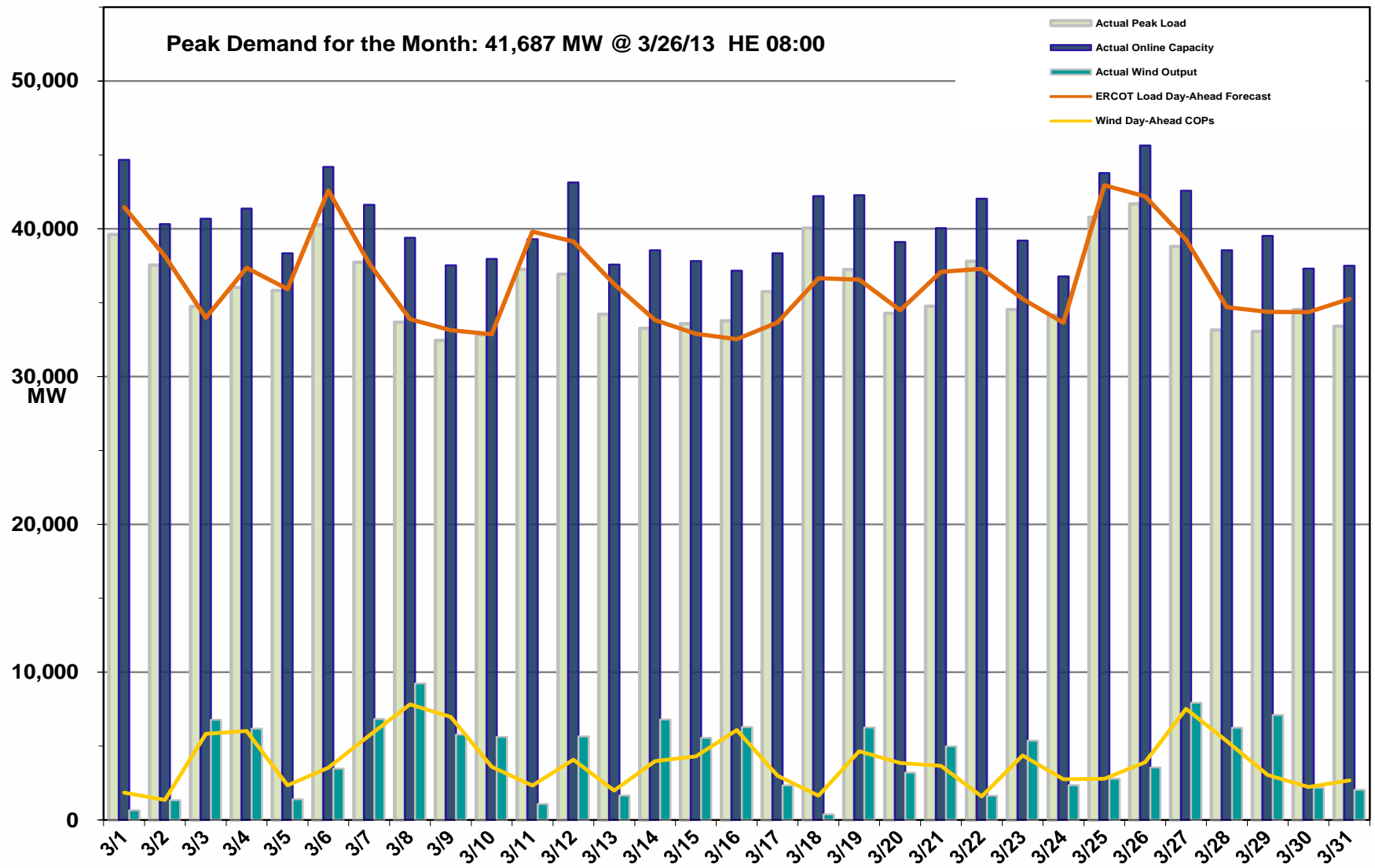
# March 2013 Summary

- March 2013 Operations
  - The peak demand of 41,687 MW on March 26<sup>th</sup> was less than the mid-term forecast peak of 42,197 MW and less than the March 2012 actual peak demand of 42,611 MW. The instantaneous load on March 26<sup>th</sup> was 42,413 MW.
  - Day-ahead load forecast error for March was 2.68%.
  - Two Advisories were issued for Physical Responsive Capability (PRC) below 3000 MW.
  - No Watches were issued for PRC under 2500 MW.
  - No Energy Emergency Alert (EEA) events.
- Planning Activities
  - 159 active generation interconnection requests totaling over 48,000 MW, including 21,000 MW of wind generation as of March 31, 2013. Three fewer requests but the same total MW as February 28, 2013.
  - 10,570 MW wind capacity in commercial operation March 31, 2013; 163 MW more than February 28, 2013.

# April 2013 Summary

- April 2013 Operations
  - The peak demand of 45,585 MW on April 16<sup>th</sup> was more than the mid-term forecast peak of 44,909 MW and less than the April 2012 actual peak demand of 48,774 MW. The instantaneous load on April 16<sup>th</sup> was 45,755 MW.
  - Day-ahead load forecast error for April was 2.81%.
  - 3 Advisories were issued for Physical Responsive Capability (PRC) below 3000 MW.
  - No Watches were issued for PRC under 2500 MW.
  - No Energy Emergency Alert (EEA) events issued.
- Planning Activities
  - 159 active generation interconnection requests totaling over 48,000 MW, including 20,000 MW of wind generation as of April 30, 2013. The same number of requests and total MW from March 31, 2013.
  - 10,570 MW wind capacity in commercial operation April 30, 2013; no change from March 31, 2013.

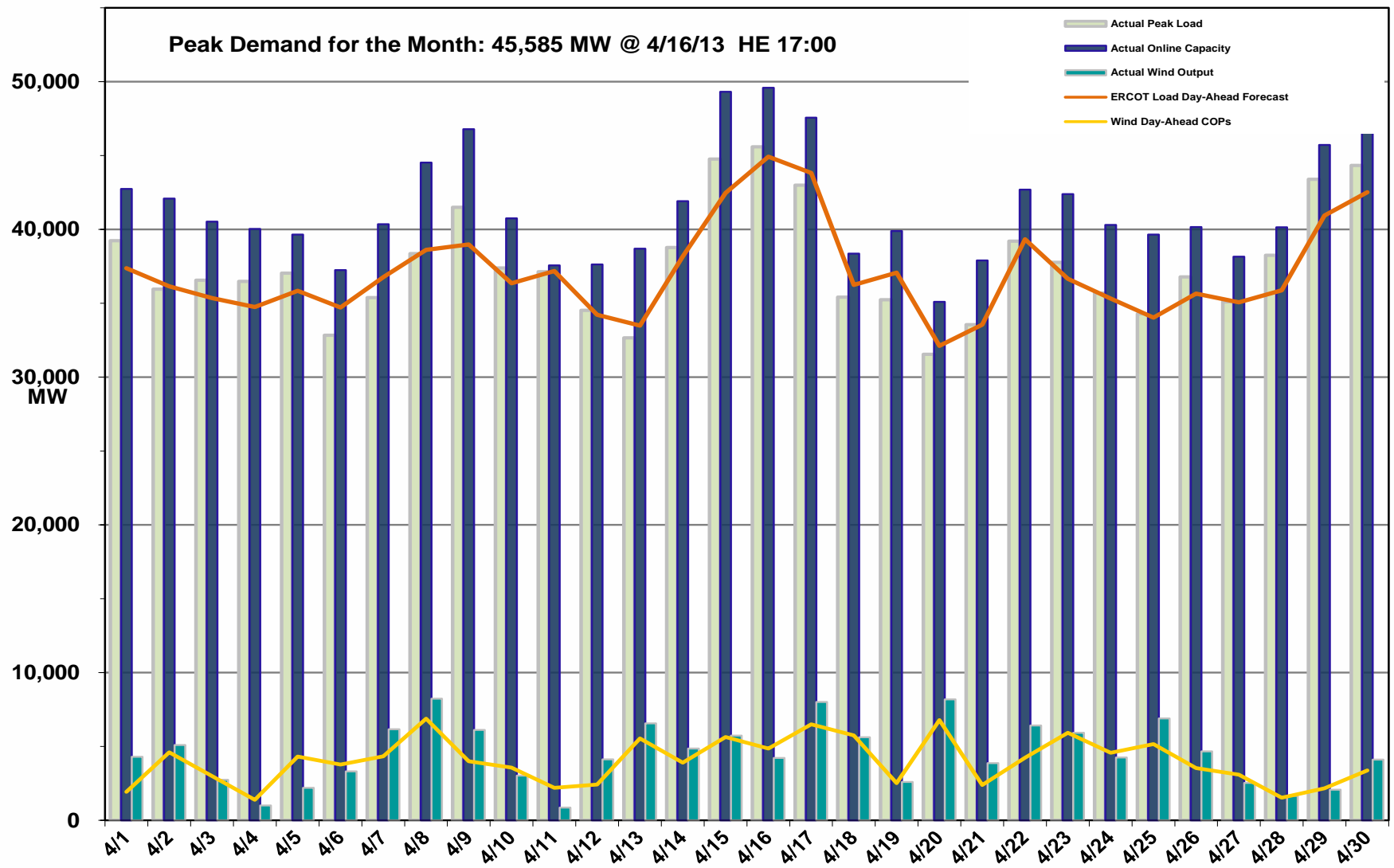
# March 2013 Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak



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

# April 2013 Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak



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

# Market Statistics – March 2013

Market Statistics	Mar 2012	Mar 2013	2012 Average	2013 YTD Average
Percentage of Real-Time load hedged in Day-Ahead Market	124.25%	115.65%	122.66%	120.77%
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Day-Ahead Market (\$/MWh)	23.24	30.80	30.18	27.45
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Real-Time (\$/MWh)	29.83	29.81	26.49	26.37

# Market Statistics – April 2013

Market Statistics	Apr 2012	Apr 2013	2012 Average	2013 YTD Average
Percentage of Real-Time load hedged in Day-Ahead Market	119.40%	113.00%	122.66%	118.83%
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Day-Ahead Market (\$/MWh)	30.22	34.08	30.18	29.11
Average 'ERCOT Hub Average 345 kV Hub' Settlement Point Price in Real-Time (\$/MWh)	24.91	34.95	26.49	28.52

# Operational Performance Measures – March 2013

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 100%</li></ul>
Settlements Performance (Target 99%)	Yes	<ul style="list-style-type: none"><li>• 100% timely statement and invoice posting</li></ul>

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Settlements Performance (Target 99%)	Yes	<ul style="list-style-type: none"><li>• 100% timely statement and invoice posting</li></ul>

# Operational Dashboard – March 2013

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 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>• One Resource was committed in DRUC in this month</li> </ul>

# Operational Dashboard – April 2013

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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>• Two Resources were committed in DRUC in this month</li> </ul>

# Operational Dashboard – March 2013

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 helping 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 not deployed</li></ul>
Congestion Revenue Rights Price Convergence	Yes	<ul style="list-style-type: none"><li>Trend indicates that market participants' ability to estimate value of hedges was good</li></ul>

# Operational Dashboard – April 2013

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>Ten Resources were committed for helping resolve congestion or voltage support 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 briefly from one Resource to help diminishing reserve levels</li></ul>
Congestion Revenue Rights Price Convergence	Yes	<ul style="list-style-type: none"><li>Trend indicates that market participants' ability to estimate value of hedges was good</li></ul>

# Operational Dashboard – March 2013

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>96.3% of ERCOT load settled with 15-minute interval data.</li> <li>6.2M Advanced Metering System (AMS) Electric Service Identifier (ESIID)s included in settlement as of 3/31/13</li> </ul>
Settlement Dollars	Yes	<ul style="list-style-type: none"> <li>For the month of March 2013, the final daily average settlement dollars were \$10.5M, which is up from \$9.0 M in February 2013 and from \$8.7M in March 2012.</li> </ul>
Revenue Neutrality	Yes	<ul style="list-style-type: none"> <li>For the month of March 2013, Revenue Neutrality uplift was a charge of \$.10M, which is up from a credit of \$.07M in February 2013 and down significantly from a charge of \$8.29M in March 2012.</li> </ul>
Market-Based Uplift to Load	Yes	<ul style="list-style-type: none"> <li>For the month of March 2013, the market-based uplift to load was a charge of \$0.29M, as opposed to a \$8.32M charge in February and a charge of \$4.96M in March 2012.</li> </ul>

# Operational Dashboard – April 2013

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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>96.3% of ERCOT load settled with 15-minute interval data.</li> <li>6.2M Advanced Metering System (AMS) Electric Service Identifier (ESIID)s included in settlement as of 4/23/13*</li> </ul>
Settlement Dollars	Yes	<ul style="list-style-type: none"> <li>As of settlement of Operating Day 04/23/13*, the daily average settlement dollars are trending to be near \$12.3M, which is up from \$10.5M in March 2013 and expected to be higher than April 2012 which had an average of \$9.3M.</li> </ul>
Revenue Neutrality	Yes	<ul style="list-style-type: none"> <li>As of settlement of Operating Day 04/23/13*, Revenue Neutrality uplift is trending as a charge of nearly \$3.69M, which is up from last month which was a charge of \$.10M and from April 2012 which was a credit of \$1.16M.</li> </ul>
Market-Based Uplift to Load	Yes	<ul style="list-style-type: none"> <li>As of settlement of Operating Day 04/23/13*, the market-based uplift to load is trending as a charge of \$9.59M, as opposed to a \$0.29M charge in March and a charge of \$9.14M in April 2012.</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>• Ongoing discussions with stakeholders on:<ul style="list-style-type: none"><li>• Price reversal during ERS and Load Resource deployment</li><li>• Reduction to the settlement timeline</li><li>• Improved scarcity pricing</li><li>• Constraint Competitiveness Test design improvements</li></ul></li></ul>
Evaluating Pilot Project Feasibility	<ul style="list-style-type: none"><li>• 6 month Fast Responding Regulation Service pilot started on Operating Day 2/25/13</li><li>• 30-minute ERS pilot continuing through end of September 2013</li><li>• Weather-sensitive ERS pilot project approved with initial procurement scheduled for June 2013</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	The vendor has delivered SCR760-1 and SCR760-6, the final two enhancements, to ERCOT for testing. Testing is underway with target for release to production by end of June 2013. Schedule and budget are tracking to plan.
NPRR461 - Energy Storage Settlements Consistent with PUCT Project 39917	Yes	The project is currently in Execution and on target with the approved schedule and budget. Production release is targeted for the end of July. The team is currently developing the changes required for internal components and the vendor has delivered the required CIM importer modeling changes. Functional Acceptance Testing (FAT) cycles will start in late May and continue through June, followed by full integration testing at the beginning of July.
Oracle 11g Upgrade – Upgrade Oracle databases and related tools that support ERCOT's application portfolio from Oracle 10g to Oracle 11g	Yes	<p>The project continues to complete the individual database upgrades included in the scope of this project and overall project completion remains on target for Aug 2013. Forecasted cost is within the approved budget.</p> <p>Recent completions include upgrades for three retail application databases in production along with the Oracle monitoring and support tools necessary. In addition, the team has delivered several other application database upgrades in lower non-production environments. These upgrades are currently undergoing validation prior to the scheduled production upgrades.</p> <p>There is a potential schedule risk due to residual impacts from the December storage outage, Oracle software bugs, tuning of application integration with 11g and new priority efforts. To date, the project team has been able to adjust the upgrades without impacts to overall schedule and budget.</p>
NPRR484 - Revisions to Congestion Revenue Rights Credit Calculations and Payments	Yes	The project is currently in the early stages of Planning and we are exploring options to deliver a quality solution in an expeditious manner.

# Major Project Highlights (cont.)

Project	Trending as Expected	Further Information
EMS Upgrade – Upgrade EMS and OTS from ALSTOM EMP 2.3 to EMP 3.0	Yes	<p>The team is performing additional discovery in order to confirm the approach and scope of this project prior to moving into a more detailed Planning phase that will deliver the Execution plan and culminate in a final project schedule and budget.</p> <p>Current activities include additional comparison assessment work to account for production changes ERCOT has introduced since the August 2012 baseline was established. The team also continues to work with the vendor to confirm their release timeline plans and to identify opportunities for staging of deliveries in order to optimize resources utilization without increasing delivery risk.</p>
Settlement System Upgrade – Replace proprietary code, data structures and tools with an ERCOT supported solution	Yes	<p>The project is three months into executing against the re-planned technical approach and schedule, with current activities focused on development and FAT testing. As indicated by February's results, development continues to track on or ahead of schedule and the initial FAT testing performed against these code deliverables is also confirming that the design change is working as intended.</p> <p>Development and FAT testing deliverables are planned to continue through the remainder of this year and into 2014, which in turn, will support ERCOT's plans for production deployment of Data Aggregation functionality in mid-2014 and Settlements functionality in late 2014.</p> <p>As a result of the success seen since February, ERCOT remains confident that a quality product will be delivered within the Board-approved schedule and budget.</p>

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