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# ERCOT Monthly Operational Overview (**November 2013**)

ERCOT Public  
December 15, 2013

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# **Grid Operations & Planning**

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## Summary – November 2013

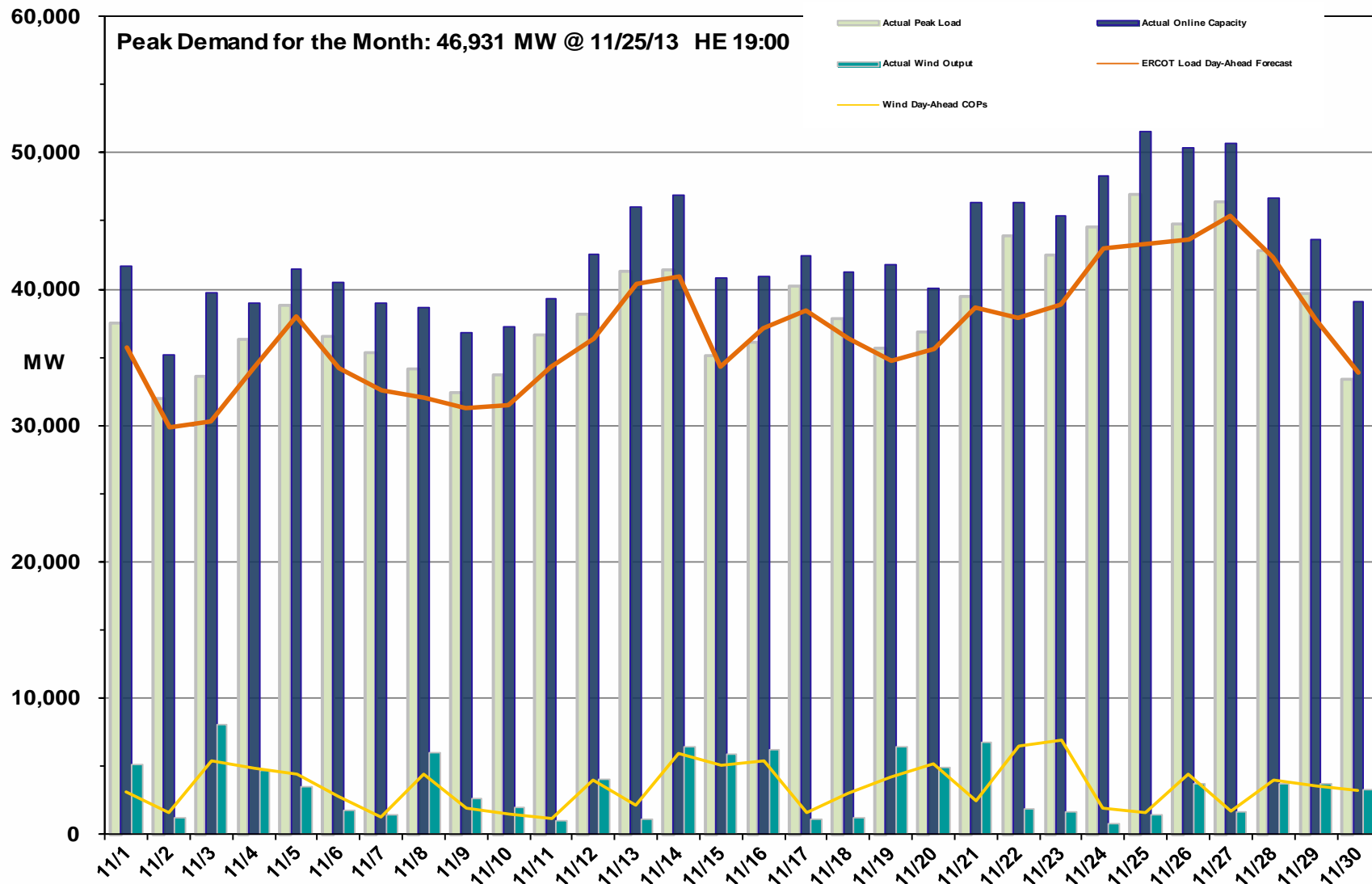
- **Operations**

- The peak demand of 46,931 MW on November 25<sup>th</sup> was more than the mid-term forecast peak of 43,287 MW as well as the November 2012 actual peak demand of 41,626 MW. The instantaneous load on November 24<sup>th</sup> was 47,030 MW.
- Day-ahead load forecast error for November was 3.48%
- ERCOT issued four advisories.
  - One Operating Condition Notice (OCN) for unplanned outages in the West.
  - Three advisories for Physical Responsive Capability (PRC) below 3000 MW.
- No Watches were issued
- No Emergency Notices were issued
- No Energy Emergency Alert (EEA) events

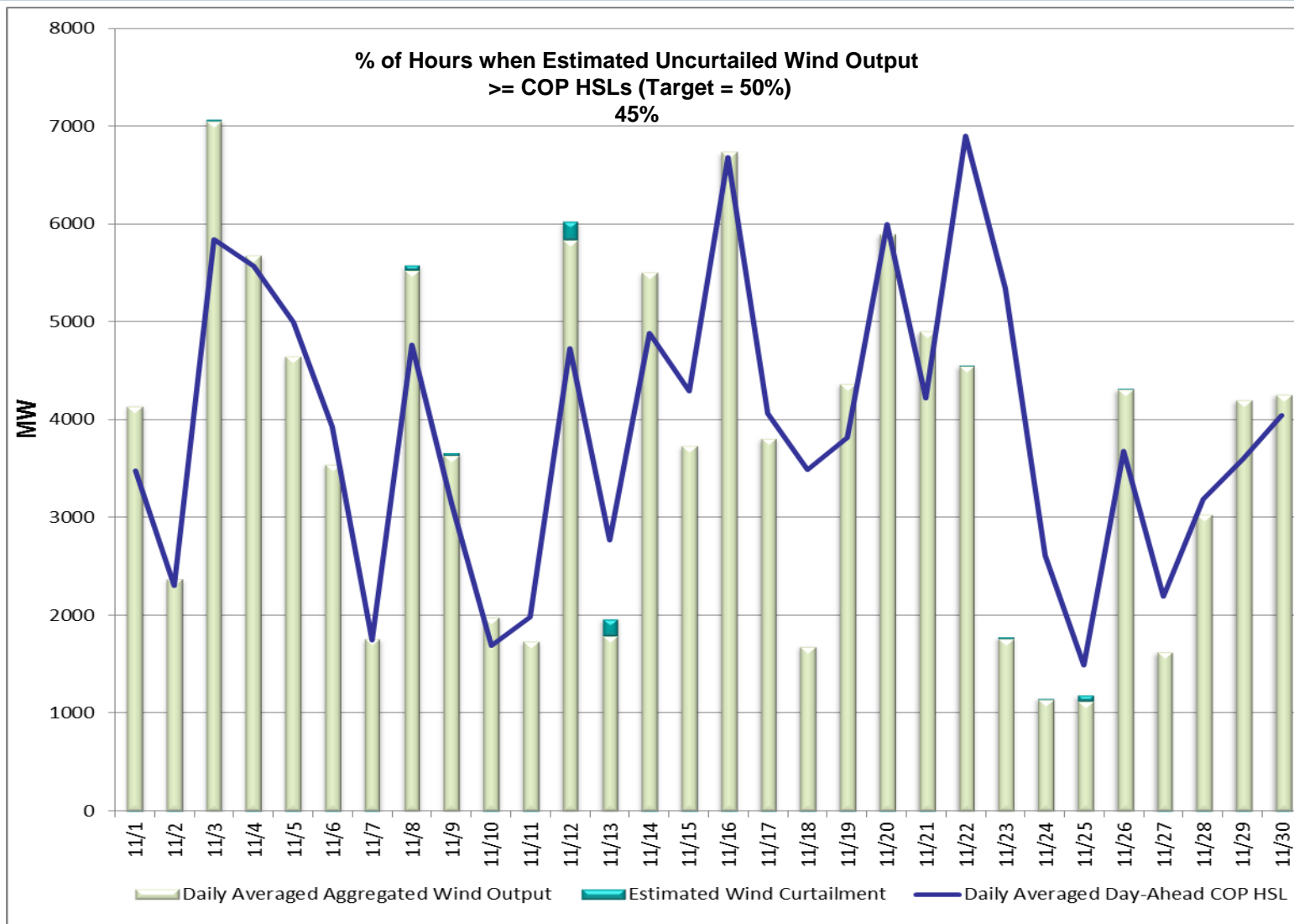
- **Planning Activities**

- 194 active generation interconnection requests totaling over 50,000 MW, including 22,600 MW of wind generation as of November 30, 2013. Twelve more requests and 2,900 more MW from October 31, 2013.
- 10,970 MW wind capacity in commercial operation November 30, 2013; no change from October 31, 2013.

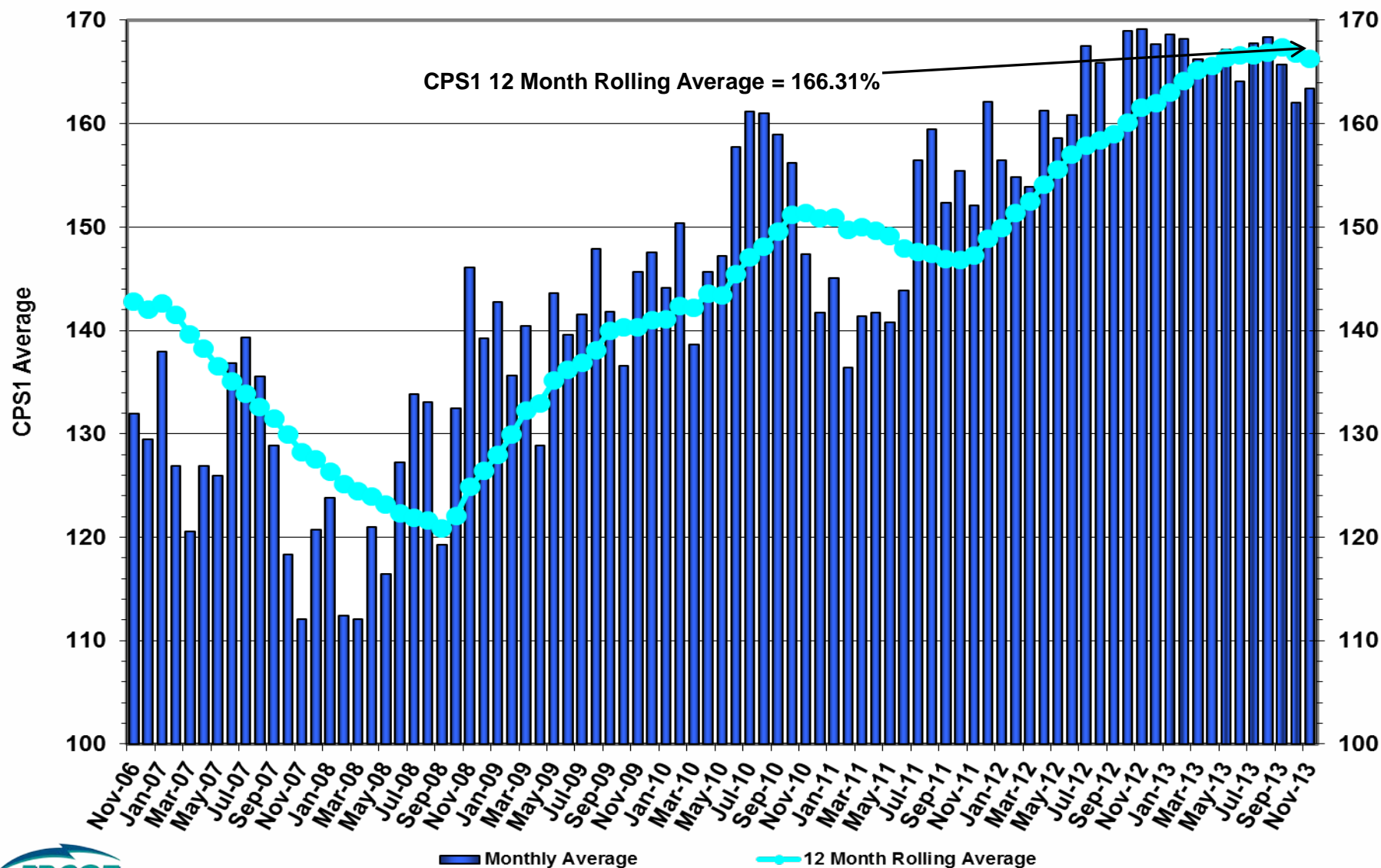
# Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak – Nov. 2013



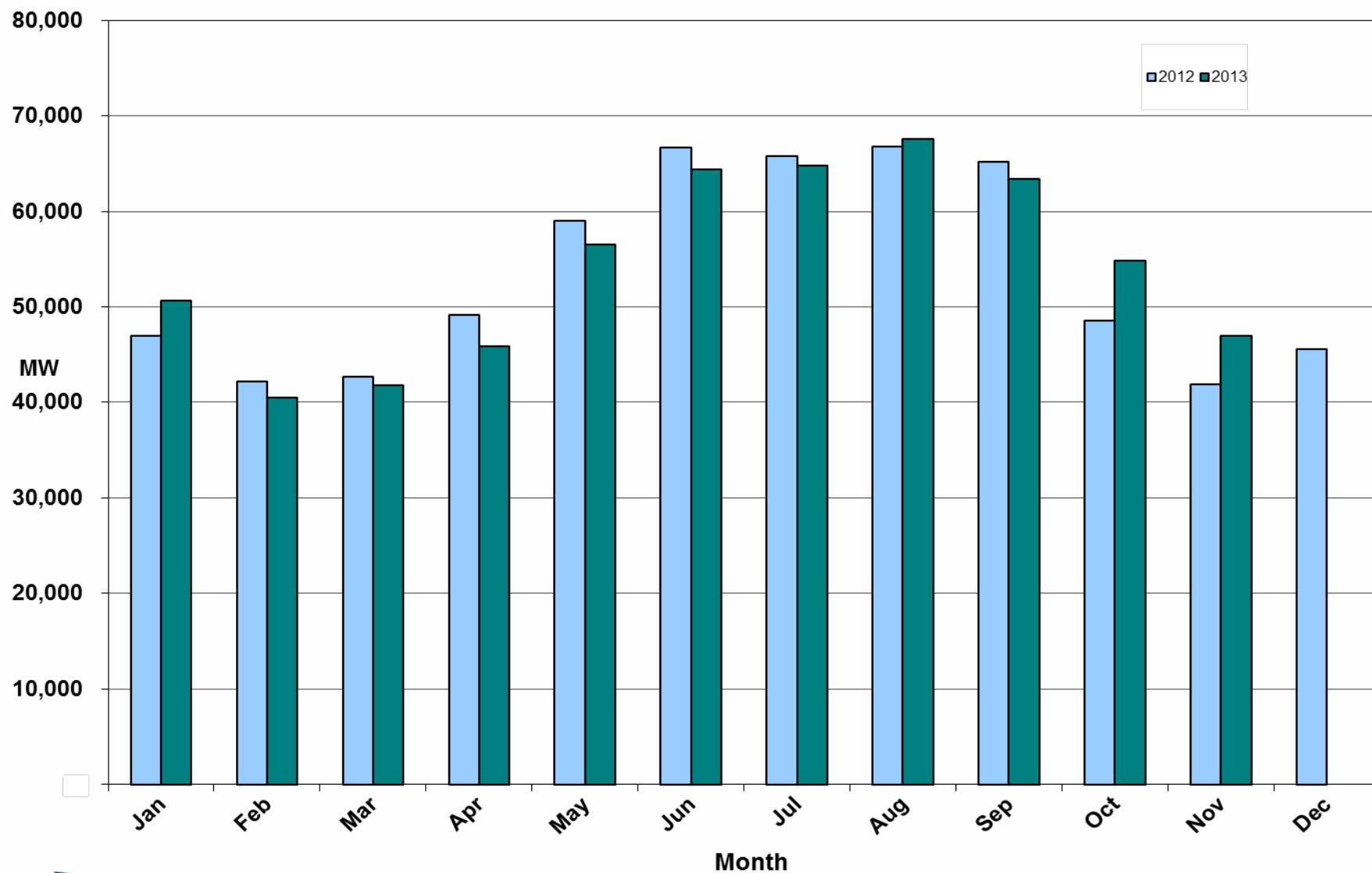
# Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – November 2013



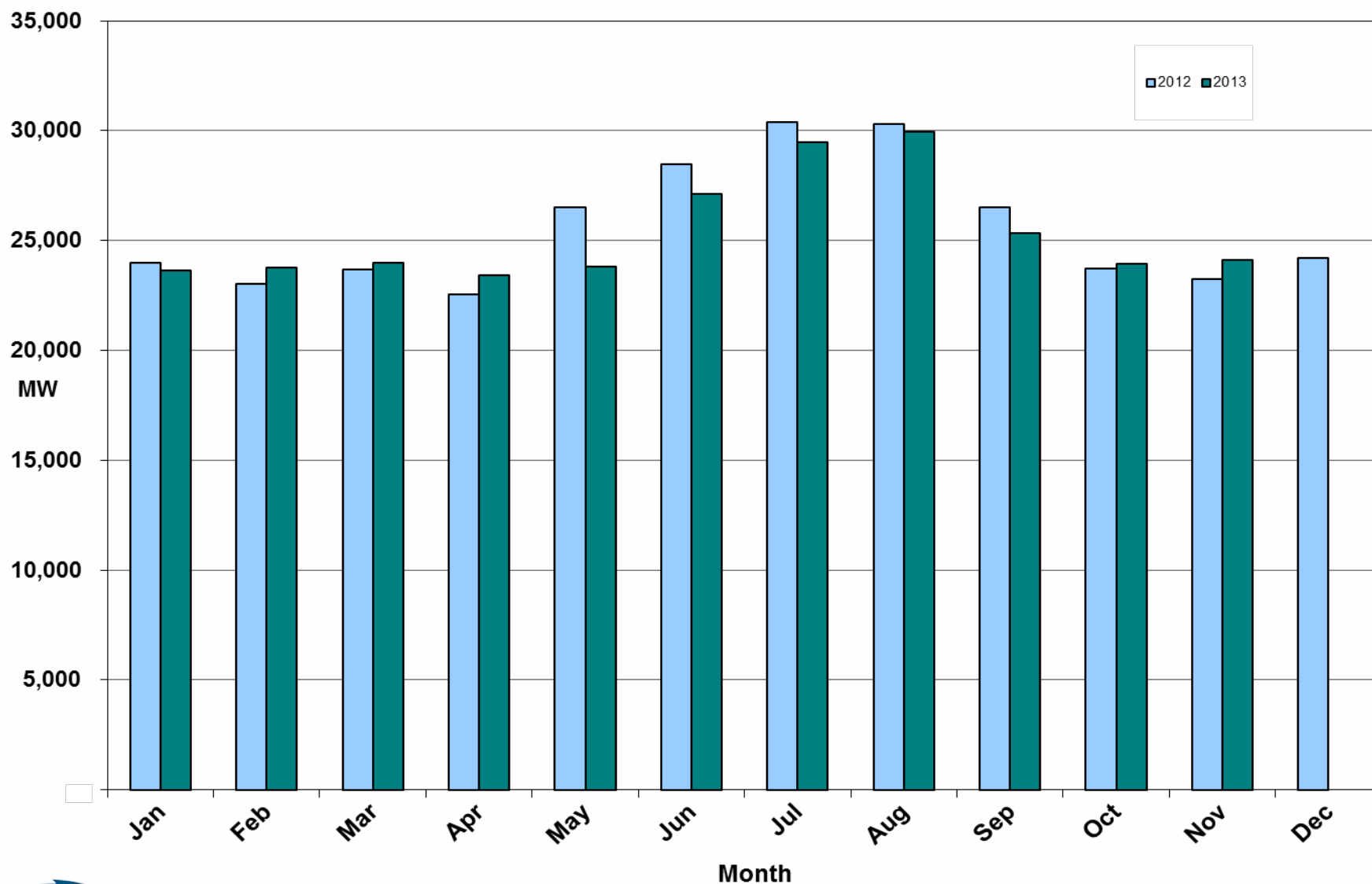
# ERCOT's CPS1 Monthly Performance – November 2013



## Monthly Peak Actual Demand – November 2013



## Monthly Minimum Actual Demand – November 2013



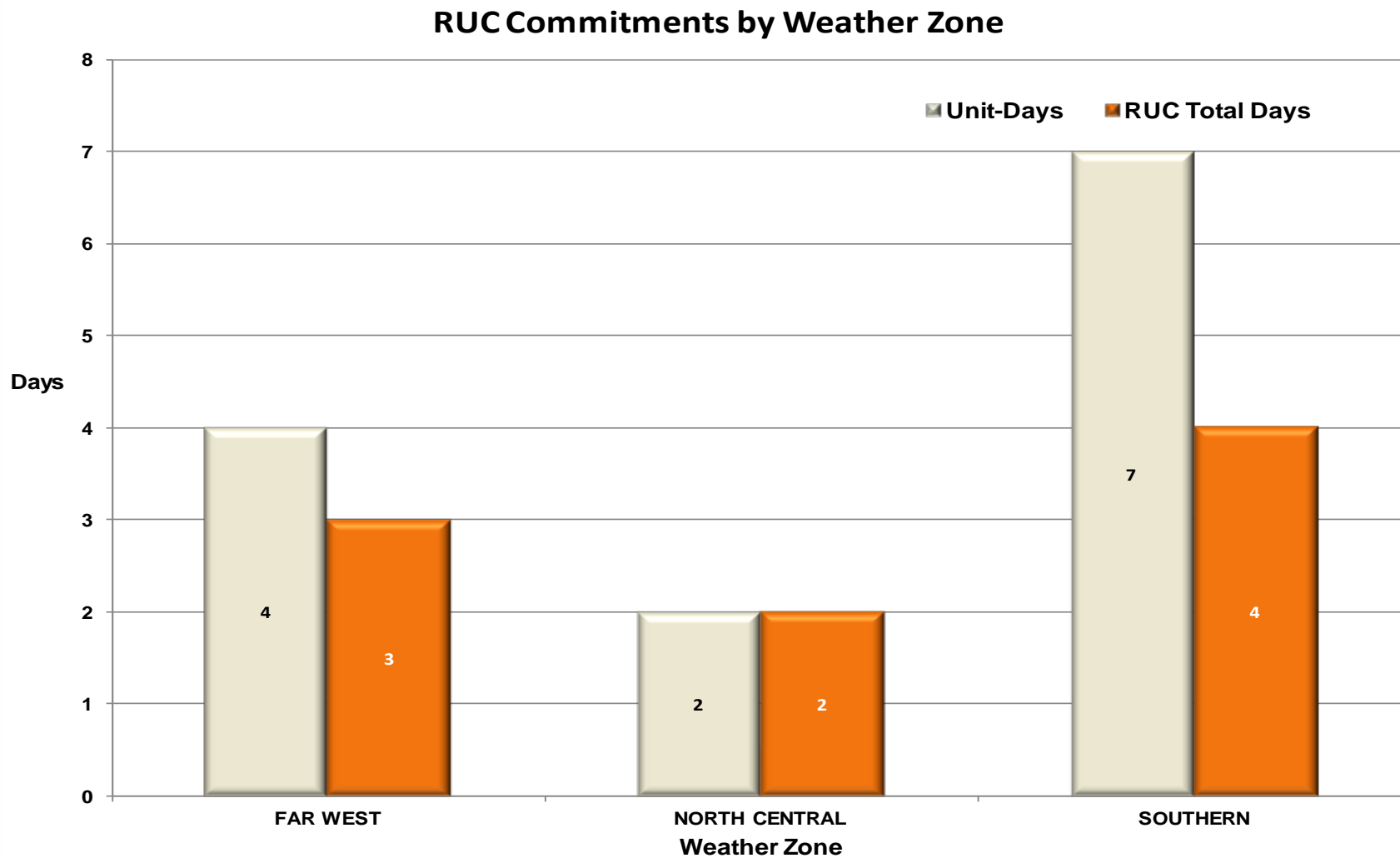


## Day-Ahead Load Forecast Performance - November 2013

**Mean Absolute Percent Error (MAPE) for ERCOT Mid-Term Load Forecast (MTLF)  
Run at 14:00 Day Ahead**

	2010 MAPE	2011 MAPE	2012 MAPE	2013 MAPE	Nov 2013 MAPE	
<b>Average Annual MAPE</b>	2.83	2.83	3.02	2.82	3.48	
<b>Lowest Monthly MAPE</b>	2.24	1.63	2.51	2.07	<b>Lowest Daily MAPE</b>	1.46 November – 14
<b>Highest Monthly MAPE</b>	3.79	3.55	3.49	3.50	<b>Highest Daily MAPE</b>	10.22 November – 22

## Reliability Unit Commitment (RUC) Capacity by Weather Zone – Nov. 2013



## Generic Transmission Limits (GTLs) – November 2013

GTLs	Nov 12 Days GTLs	Sep 13 Days GTLs	Oct 13 Days GTLs	Nov 13 Days GTLs	Last 12 Months Total Days (Dec12 – Nov13)
North – Houston	0	0	0	0	0
West – North	7	1	1	0	55
Valley Import	0	0	0	1	1

**GTL:** A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security analysis applications.

**Note:** This table lists how many times a constraint has been activated to avoid exceeding a GTL limit, it does not imply an exceedance of the GTL occurred.

## Advisories and Watches – November 2013

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- Advisories issued for application issues.
  - None
- Advisories issued for Physical Responsive Capability (PRC) below 3000 MW.
  - Issued three instances over three days (11/5, 11/6, 11/22)
- Transmission Watches
  - None
- Emergency Notice
  - None
- Energy Emergency Alerts
  - None
- OCNs
  - Issued one day (11/24)
    - Unplanned outages in far West Texas

## Significant Events – November 2013

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- No significant events to report

# Lake Levels Update – December 1, 2013

Surface Water & (MW)	*Level @ Full Conservation Pool	*Level on Jan 1, 2011	*Level on Oct 7, 2011	*Level on Dec 1, 2013
Lake Texana (56)	44.50	41.00	32.81	42.10
Bardwell Lake (312)	421.00	420.71	416.23	416.79
Lake Colorado City (407)	2,070.20	2057.33	2052.4	2049.78
Lake Ray Hubbard (916)	435.50	432.37	429.22	428.47
Lake Granbury (983)	693.00	691.90	686.27	684.18
Lake Houston (1016)	41.73	42.10	36.76	42.59
Twin Oaks Reservoir (1616)	400	398.87	398.27	400.12
Lake Limestone (1689)	363	359.03	354	363.09
Martin Lake (2425)	306	300.48	295.06	306.08

\* In Feet above Mean Sea Level

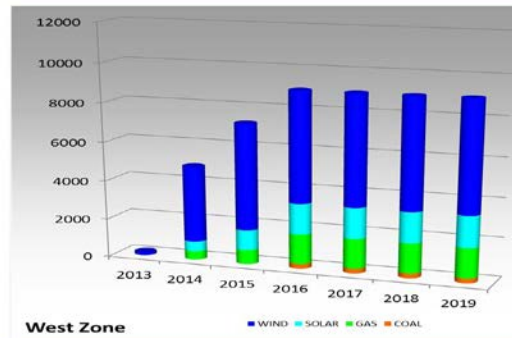
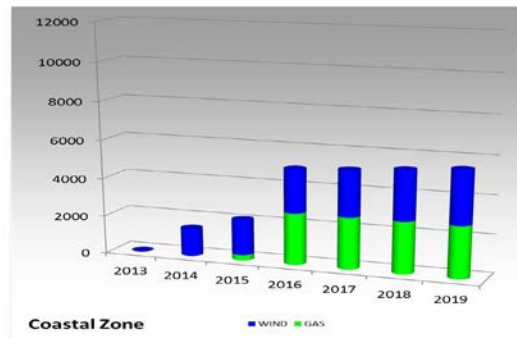
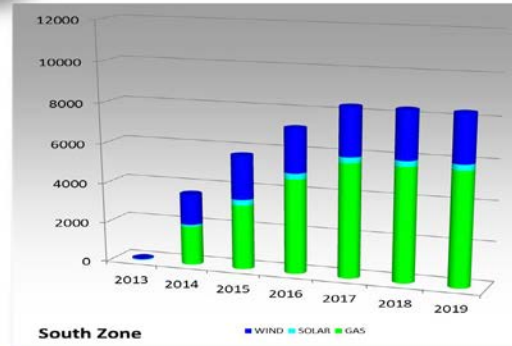
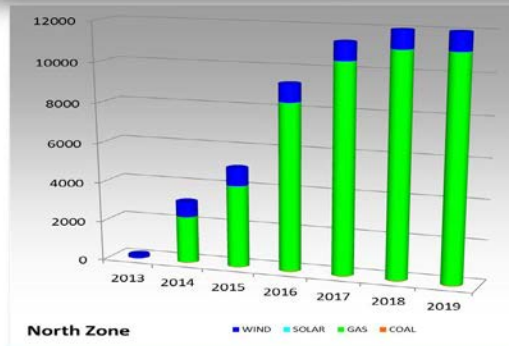
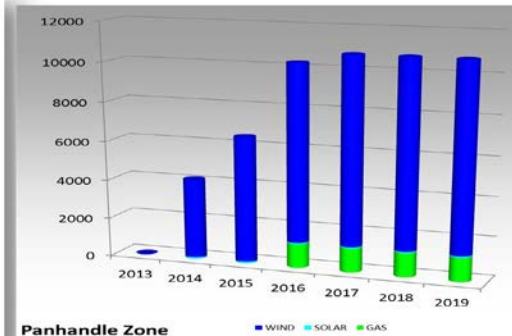


## Planning Summary – November 2013

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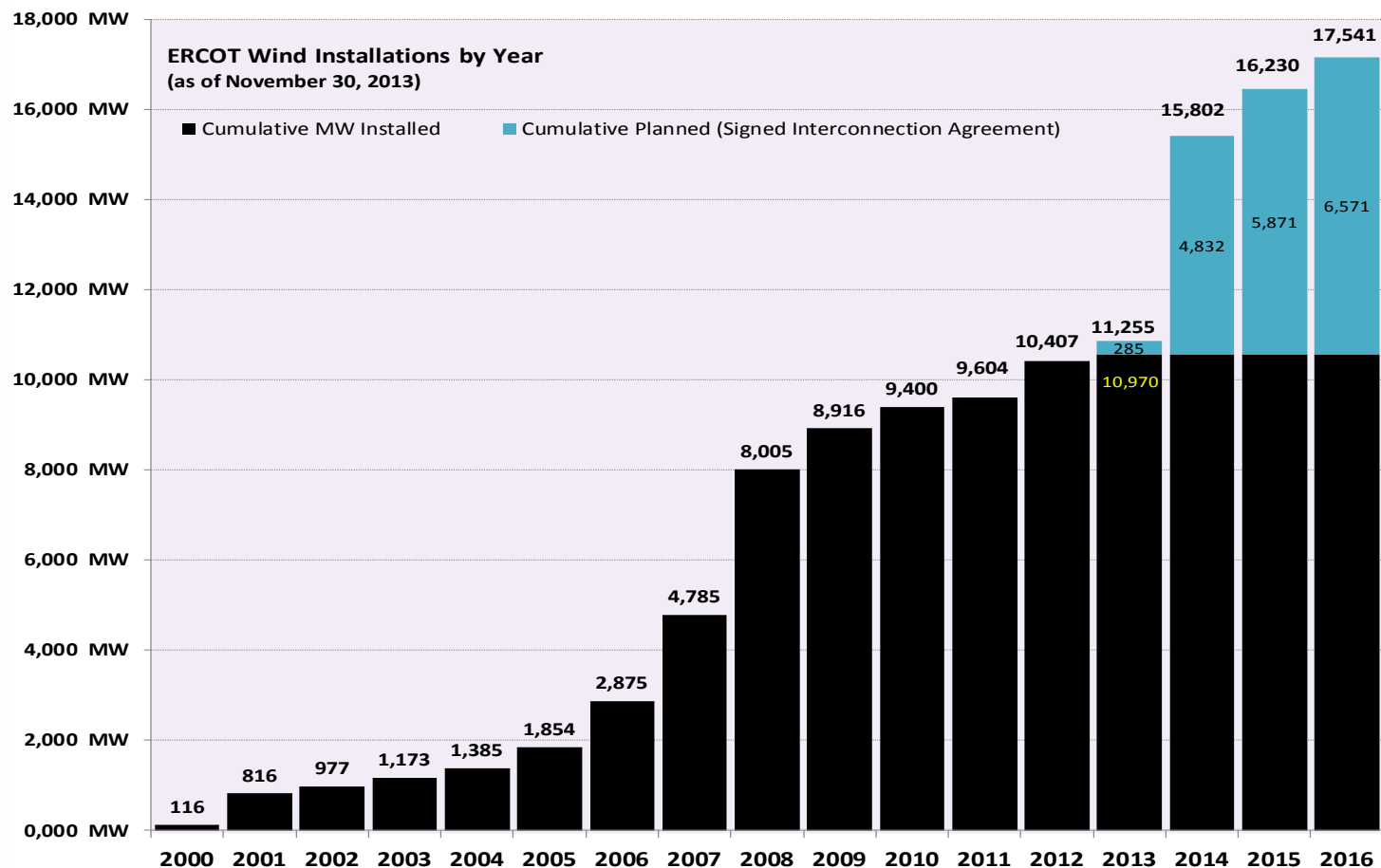
- **ERCOT is currently tracking 194 active generation interconnection requests totaling over 50,000 MW. This includes over 22,600 of wind generation.**
- **ERCOT is currently reviewing proposed transmission improvements with a total cost of \$720 Million**
- **Transmission Projects endorsed in 2013 total \$349.8 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$6.23 Billion.**
- **Transmission Projects energized in 2013 total about \$3.17 Billion.**

# Cumulative Installed MW Capacity of Interconnection Requests by Zone – November 2013





# Wind Generation – November 2013

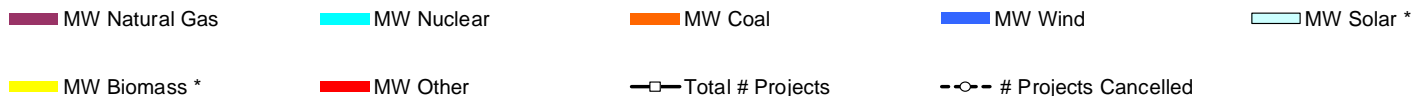


The data presented here is based upon the latest registration data provided to ERCOT by the resource owners and can change without notice. Any capacity changes will be reflected in current and subsequent years' totals. Scheduling delays will also be reflected in the planned projects as that information is received.

This chart reflects planned units in the calendar year of submission rather than installations by peak of year shown.

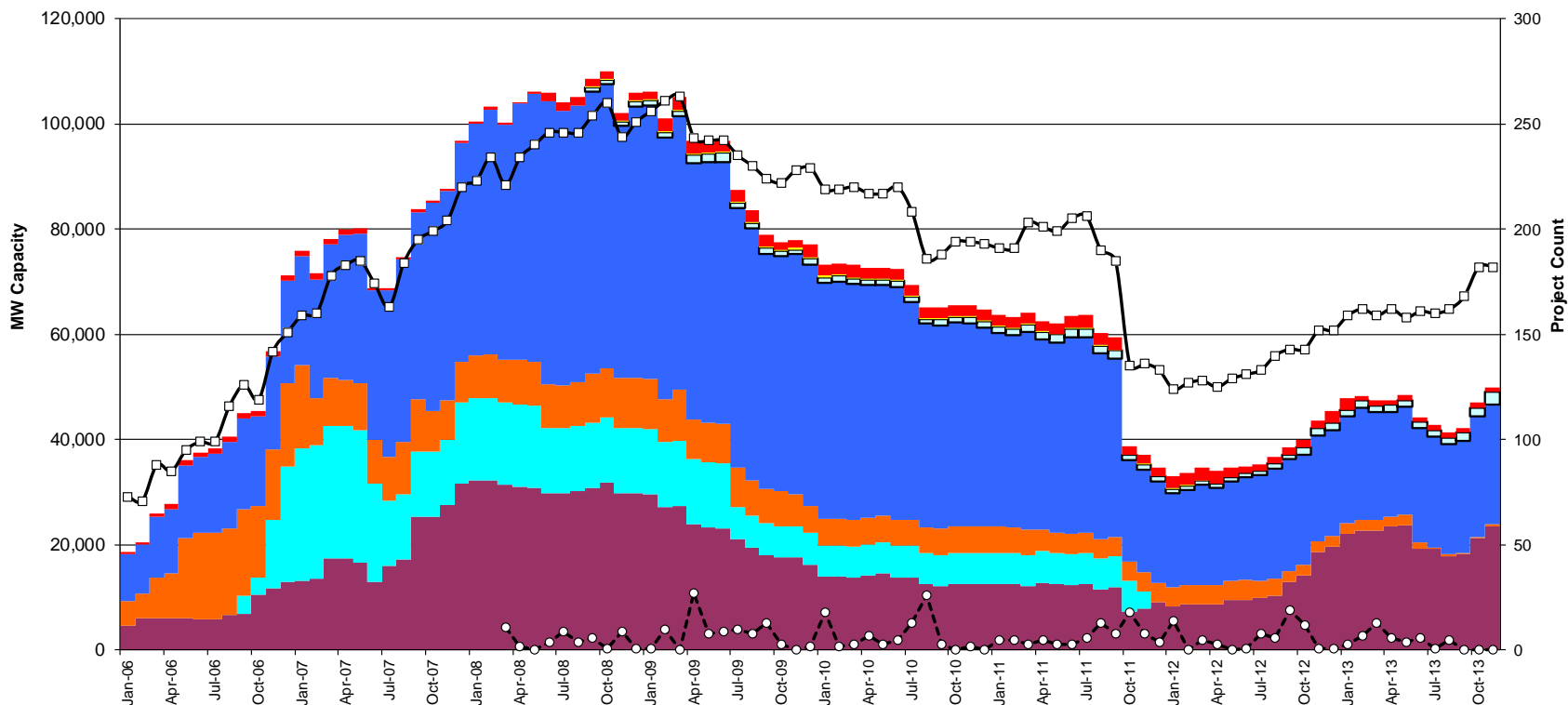


# Generation Interconnection Activity by Fuel – November 2013

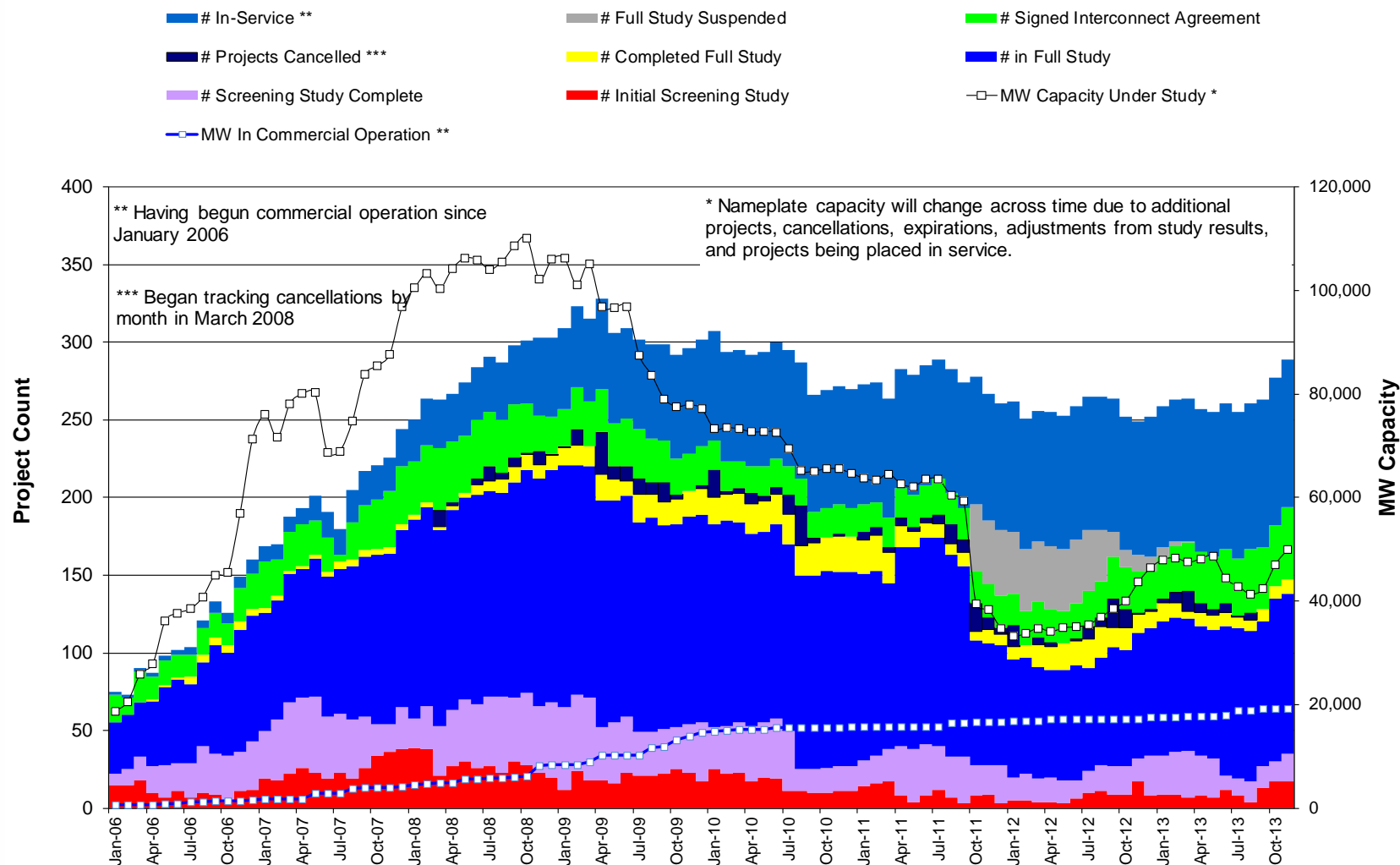


\* Prior to September 2008, Category "Other" included "Solar" and "Biomass"  
 Projects in all phases of interconnection study are reflected in this graph  
 Project cancellation tracking by month began in March 2008

Note: Suspended Projects are not included in this chart



# Generation Interconnection Activity by Project Phase – November 2013

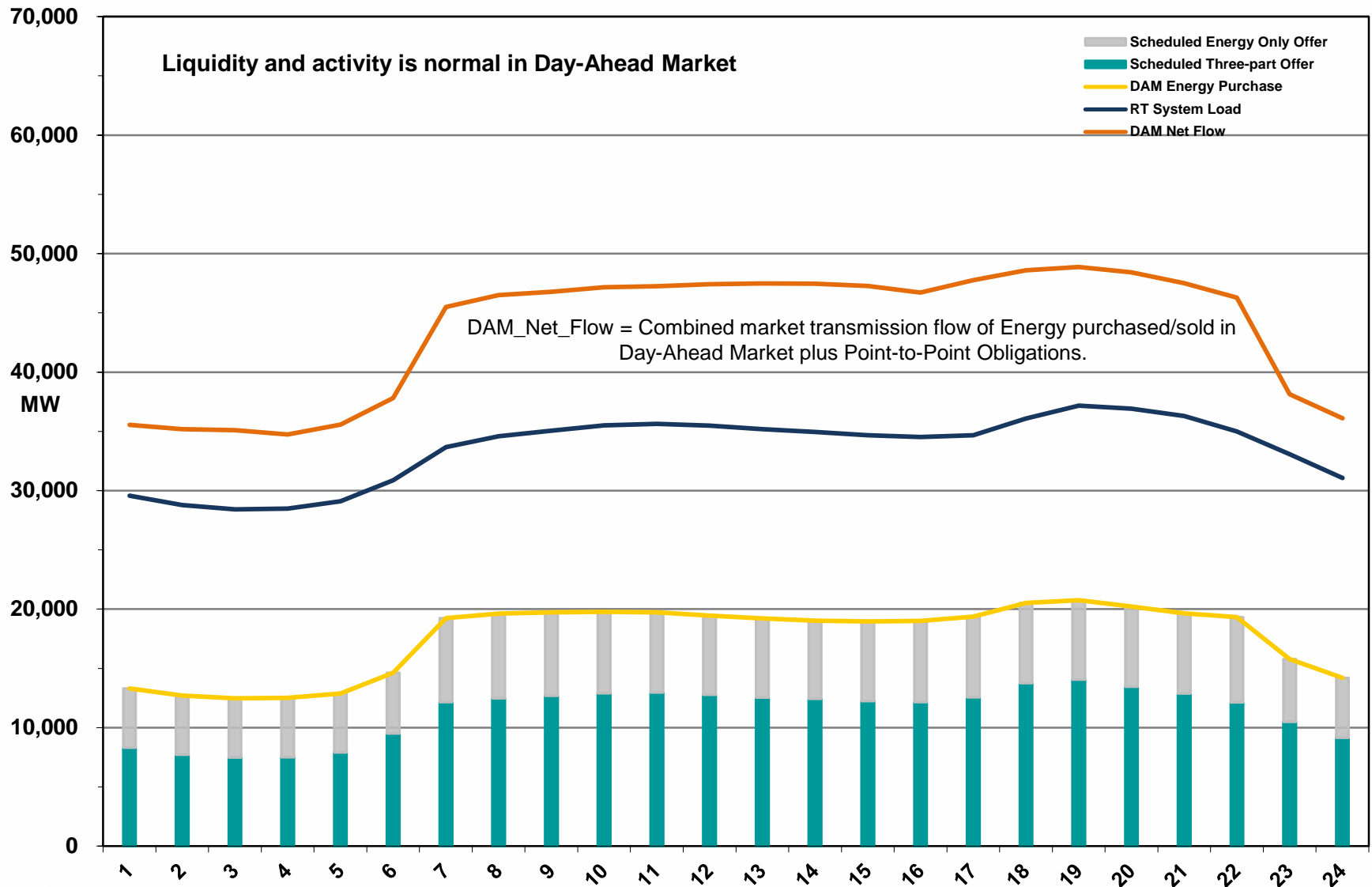


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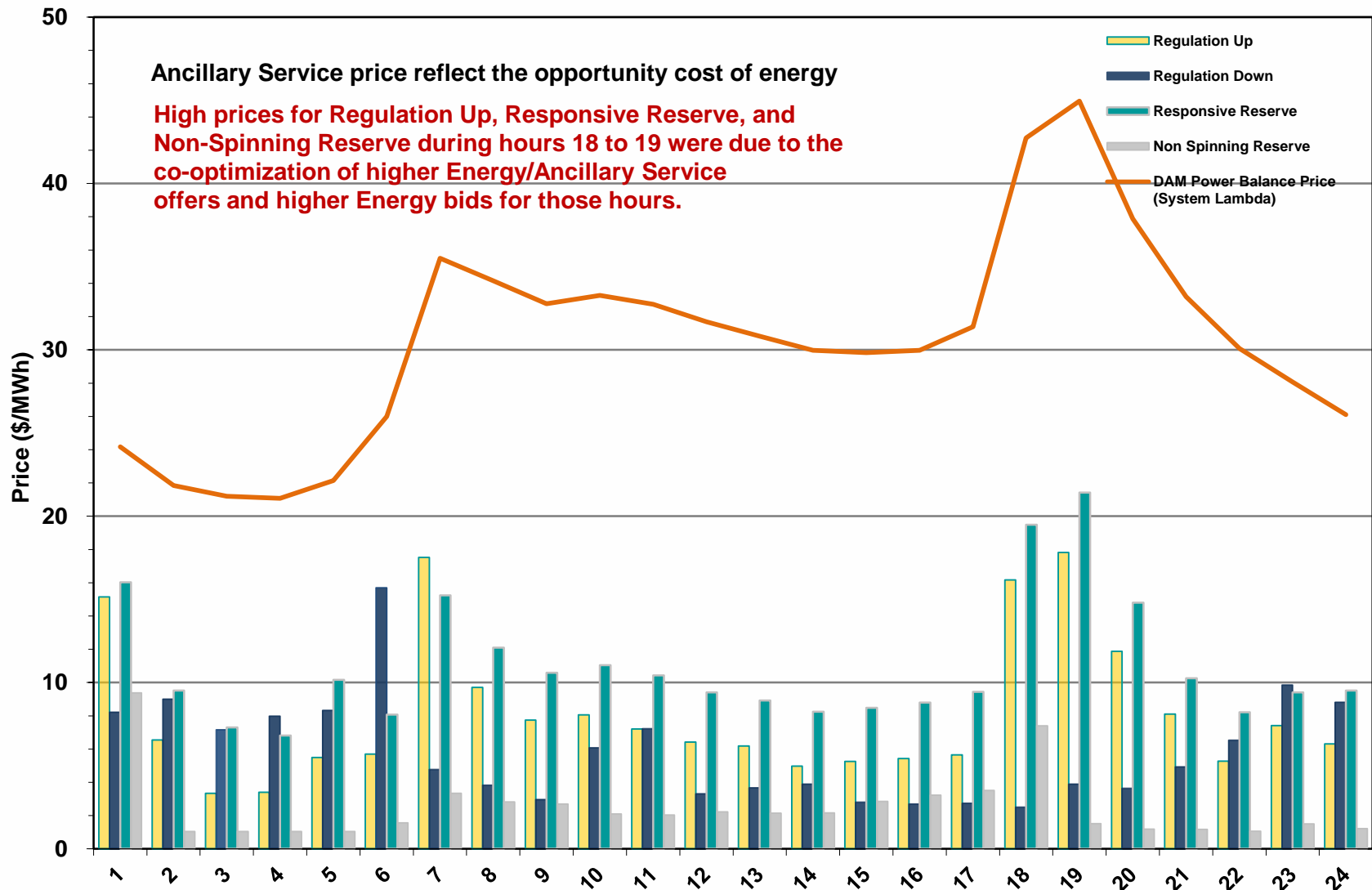
# **Market Operations**

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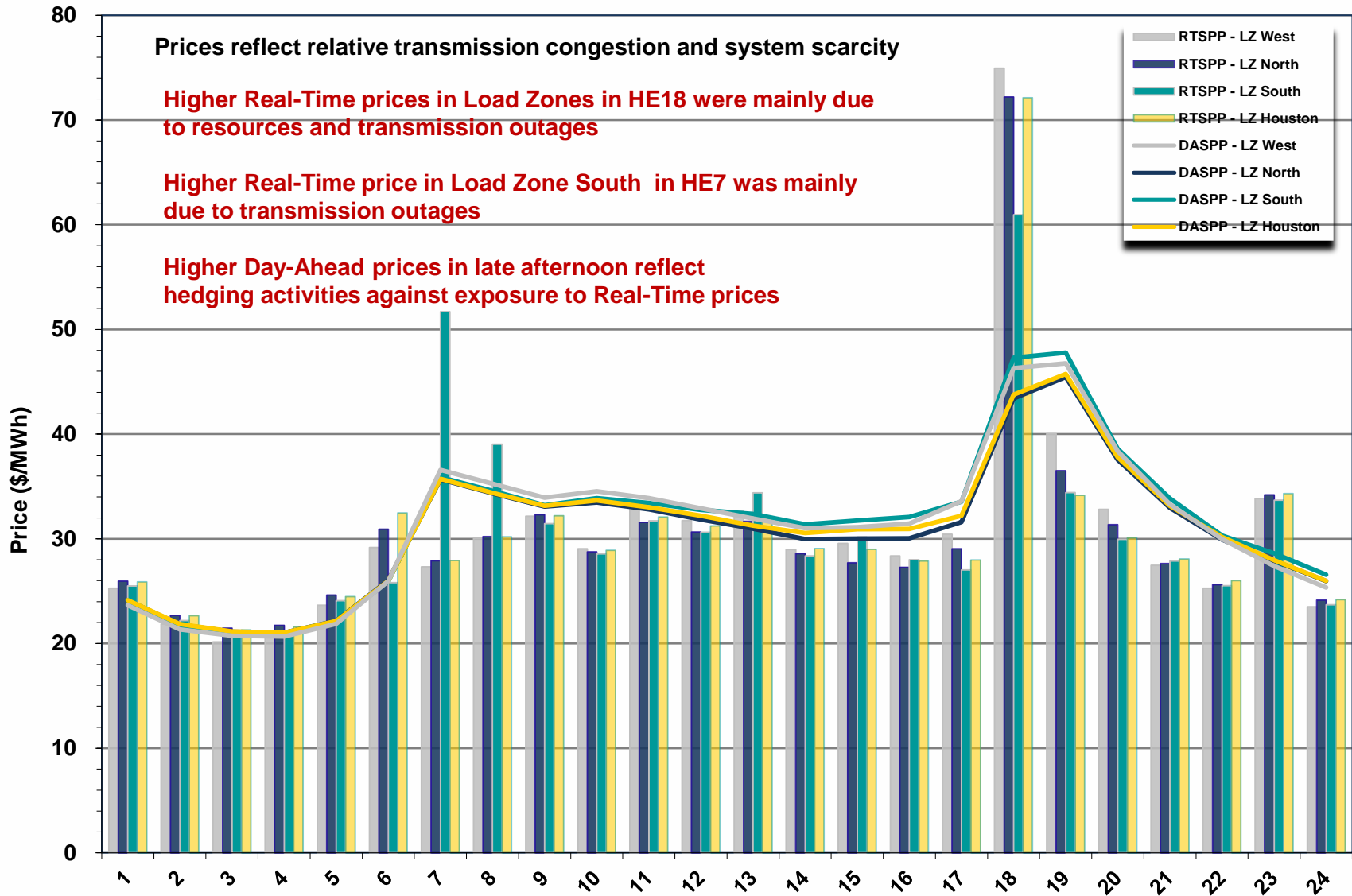
# Day-Ahead Schedule (Hourly Average) – November 2013



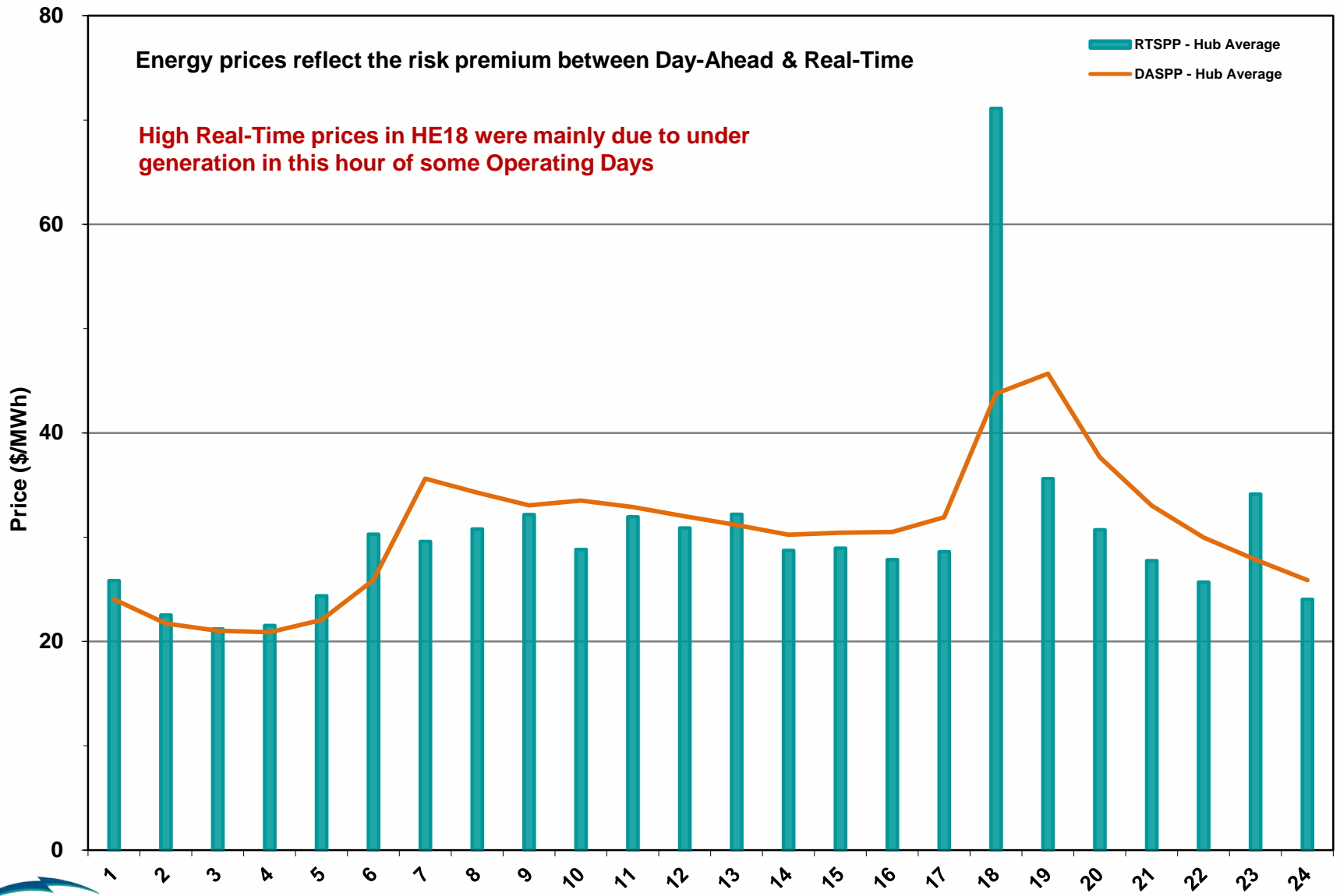
# Day-Ahead Electricity And Ancillary Service Hourly Average Prices – November 2013



# Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – November 2013

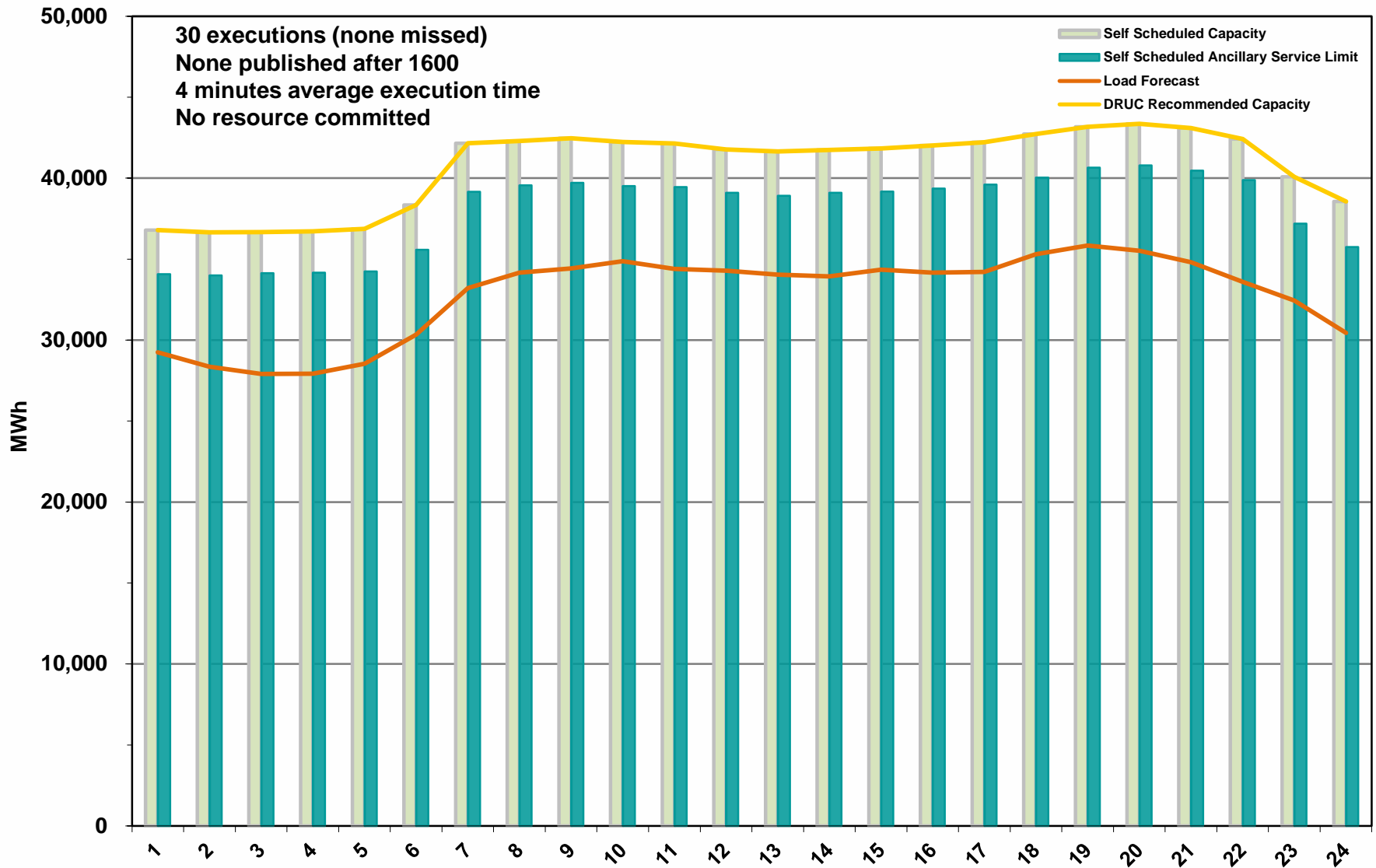


# Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – November 2013

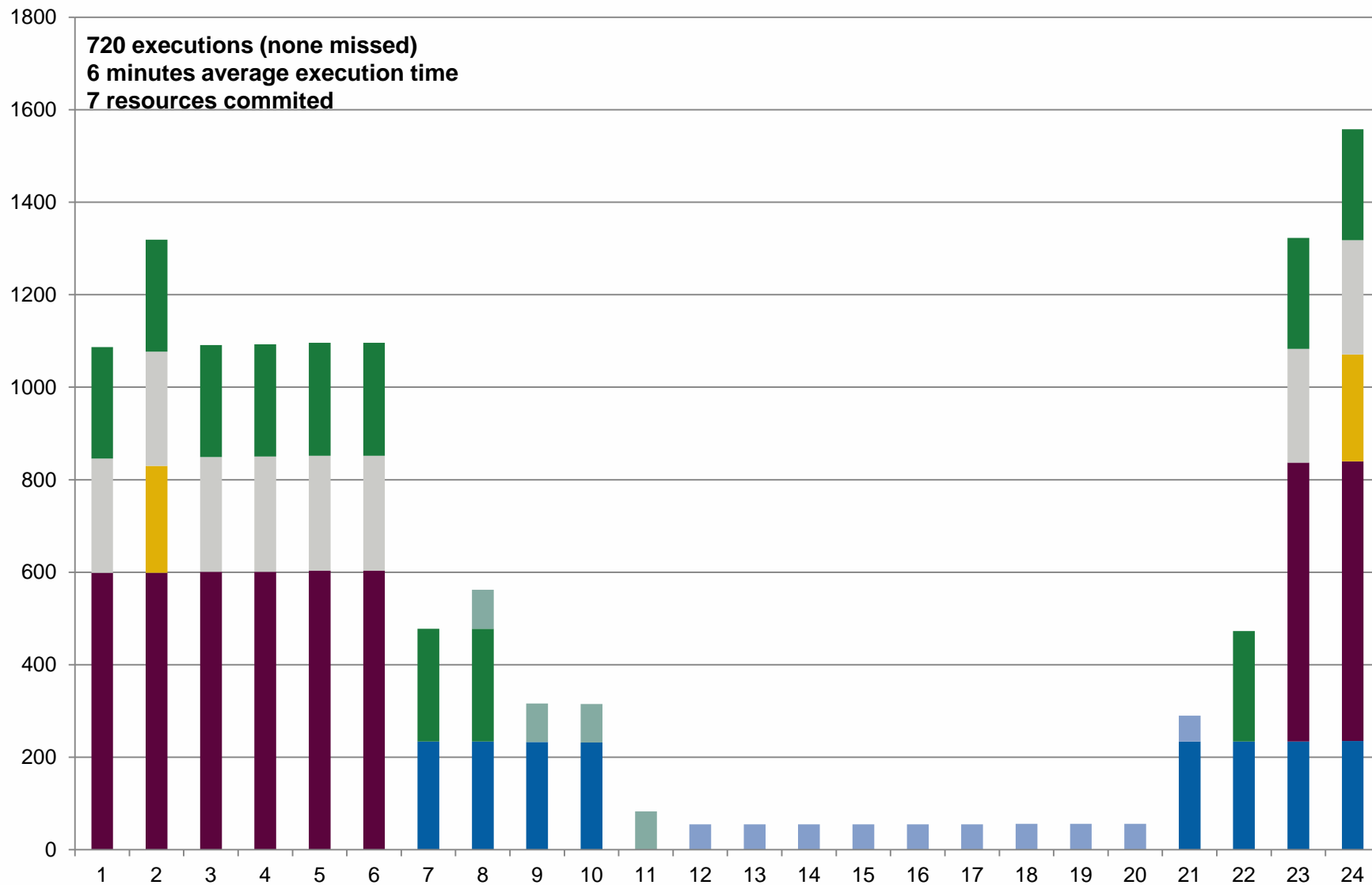




# DRUC Monthly Summary (Hourly Average) – November 2013



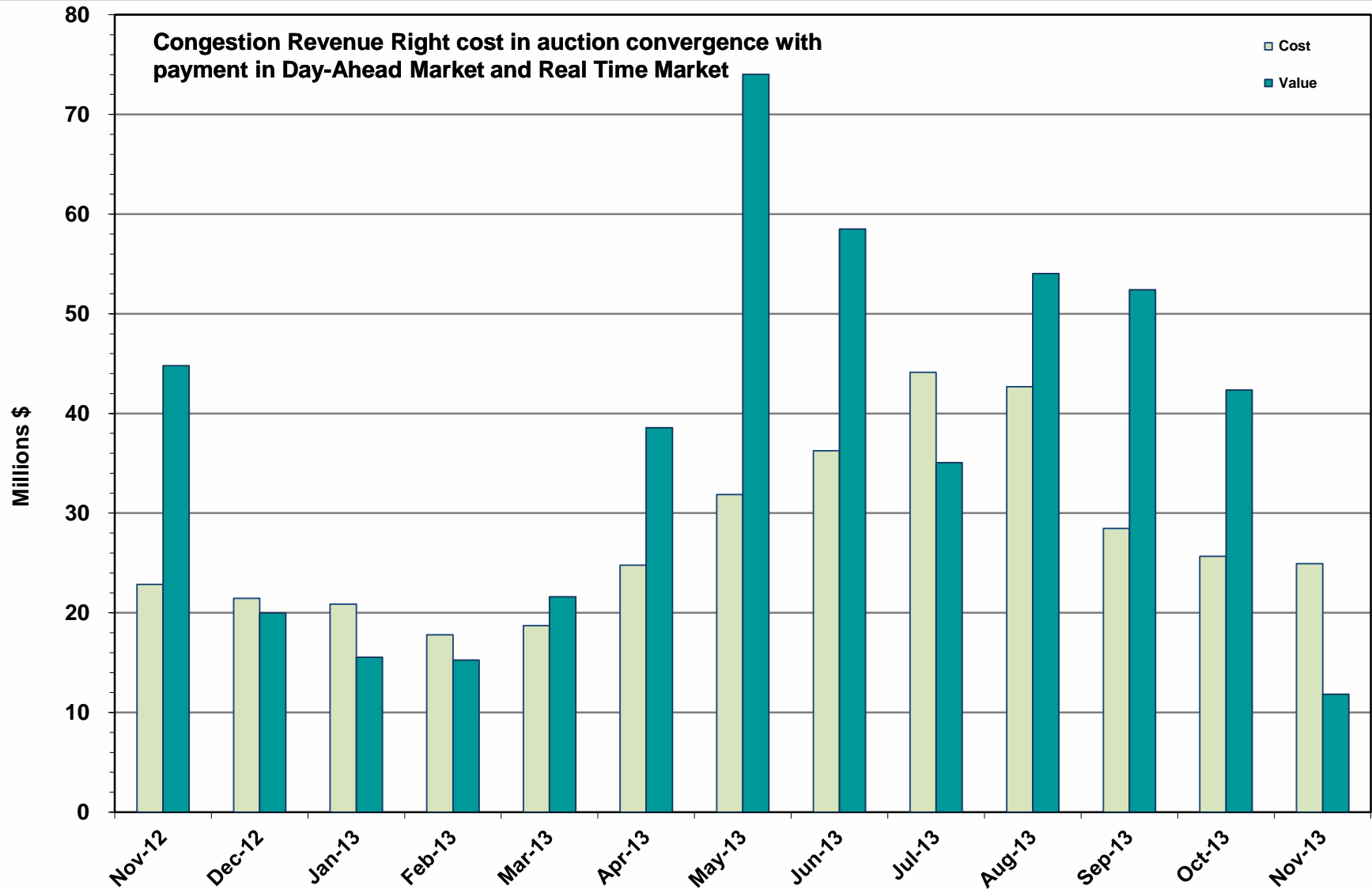
# HRUC Monthly Summary – November 2013



## Non-Spinning Reserve Service Deployment – November 2013

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
None				

# CRR Price Convergence – November 2013



# ERS Procurement for **October 2013 – January 2014**

## 10-Minute ERS

	BH1	BH2	BH3	NBH
MW Procured	589.095	582.995	568.470	510.320
Average Price Per MW per Hour	\$8.01	\$8.37	\$8.44	\$7.98

## 30-Minute ERS Pilot

MW Procured	134.252	136.348	122.565	111.671
Clearing Price	\$8.00	\$8.50	\$8.80	\$8.00

BH1 - Business Hours 1  
 BH2 - Business Hours 2  
 BH3 - Business Hours 3  
 NBH - Non-Business Hours

HE 0900 through 1300, Monday thru Friday except ERCOT Holidays  
 HE 1400 through 1600, Monday thru Friday except ERCOT Holidays  
 HE 1700 through 2000, Monday thru Friday except ERCOT Holidays  
 All other hours



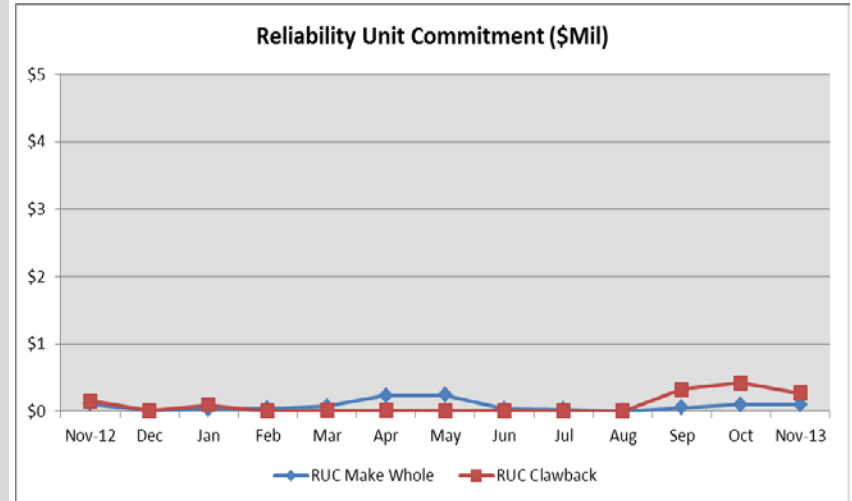
# Market Enhancements to Address IMM Recommendations – November 2013

Enhancement	Further Information
Adequate scarcity pricing in SCED using Operating Reserve Demand Curve: Hogan solution	<ul style="list-style-type: none"><li>• ERCOT BOD approved NPRR 568 and corresponding Other Binding Document (OBD) on 11/19/2013</li><li>• ERCOT is in the Planning Phase of Implementing the NPRR by 6/1/2014</li><li>• Update given to TAC on 12/3/2013 on Implementation Status</li></ul>
“Over-mitigation” in SCED	<ul style="list-style-type: none"><li>• NPRR 520 – Real-Time Mitigation Rules and Creation of a Real-Time Constraint Competitiveness was approved by BOD 3-19-13</li><li>• MMS functionality was implemented on 6-12-13</li><li>• The last remaining part of the NPRR which provides additional informational telemetry to QSEs has been migrated in Release 4 (7-31-13)</li><li>• ERCOT is analyzing the results with stakeholders to identify any need for further improvements.</li></ul>

# Reliability Services – November 2013

## Reliability Unit Commitment (RUC) \$ in Millions

RUC Make-Whole Payments	(\$0.07)
RUC Clawback Charges	\$0.27
<b>RUC Commitment Settlement</b>	<b>\$0.19</b>
RUC Capacity Short Charges	\$0.07
RUC Make-Whole Uplift	\$0.00
<b>RUC Commitment Cost Allocation</b>	<b>\$0.07</b>
RUC Decommitment Payments	\$0.00



RUC Cost continues to trend low.

RUC Costs where a charge of \$0.19M in November 2013, compared to:

- A charge of \$0.32M in October 2013
- A charge of \$0.04M in November 2012

# Ancillary Services – November 2013

Capacity Services	\$ in Millions
Regulation Up Service	\$2.85
Regulation Down Service	\$1.76
Responsive Reserve Service	\$18.57
Non-Spinning Reserve Service	\$2.56
Black Start Service	\$0.51
Voltage Services - Reactive Power	\$0.0
Voltage Services - Lost Opportunity	\$0.0
<b>Total Capacity Service</b>	<b>\$26.26</b>

Capacity Services costs were down from last month and up from November 2012.

November 2013 cost was \$26.26M, compared to:

- A charge of \$32.33M in October 2013
- A charge of \$23.95M in November 2012



# Energy Settlement – November 2013

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$408.99
Point to Point Obligation Purchases	\$8.70
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$405.57)
<b>Day-Ahead Congestion Rent</b>	\$12.12
Day-Ahead Market Make-Whole Payments	(\$0.15)

Day-Ahead and Real-Time energy settlement decreased from last month.

Day-Ahead and Real-Time energy settlement increased from November 2012.

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$436.43)
Energy Imbalance at a Load Zone	\$591.87
Energy Imbalance at a Hub	(\$139.14)
Real Time Congestion from Self Schedules	\$0.78
Block Load Transfers and DC Ties	(\$ 5.04)
<b>Impact to Revenue Neutrality</b>	\$12.03
Emergency Energy Payments	(\$1.02)
Base Point Deviation Charges	\$0.23
Real-Time Metered Generation (MWh in millions)	24.09

# Congestion Revenue Rights (CRR) – November 2013

<b>Auction Disbursements</b>	<b>\$ in Millions</b>
Annual Auction	(\$14.67)
Monthly Auction	(\$8.00)
<b>Total Auction Revenue</b>	<b>(\$22.67)</b>
Day-Ahead CRR Settlement	(\$11.50)
Day-Ahead CRR Short-Charges	\$0.37
Day-Ahead CRR Short-Charges Refunded	(\$0.37)
Real-Time CRR Settlement	(\$0.00)
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	(\$0.00)
<b>Total CRR Proceeds</b>	<b>(\$11.50)</b>
Day-Ahead Point to Point Obligations Settlement	\$8.70
Real-Time Point to Point Obligation Settlement	(\$11.85)
<b>Net Point to Point Obligation Settlement</b>	<b>(\$3.14)</b>

Congestion Revenue Rights were fully funded and excess funds were available for distribution to load.

Distribution of Balancing Account funds to load for November 2013 was \$0.66M, compared to:

- \$5.67M in October 2013
- \$0 M in November 2012

Point to Point Obligations settled with a net payment of \$3.14M compared to a net loss of \$2.80M last month.

# Revenue Neutrality – November 2013

## Revenue Neutrality Settlement

\$ in Millions

Real-Time Point to Point Obligation Settlement

(\$11.85)

Real-Time Point to Point Options and Options with Refund Settlement

(\$0.00)

Real-Time Energy Imbalance Settlement

\$16.29

Real-Time Congestion from Self-Schedules Settlement

\$0.78

DC Tie & Block Load Transfer Settlement

(\$5.04)

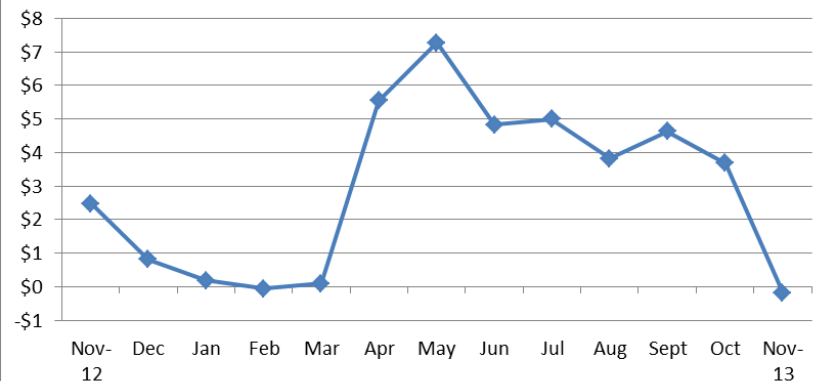
**Charge to Load (\$0.19)**

Revenue Neutrality charges to load decreased compared to last month and to November 2012.

November 2013 was a credit of \$0.19M, compared to:

- \$3.68M charge in October 2013
- \$2.48M charge in November 2012

Revenue Neutrality Uplift (\$Mil)



# Net Uplift to Load – November 2013

## Market-Based Uplifts

\$ in Millions

CRR Auction Revenue Disbursement Settlement	(\$22.67)
Balancing Account Proceeds Settlement	(\$0.66)
Net Reliability Unit Commitment Settlement	(\$0.19)
Ancillary Services Settlement	\$26.26
Reliability Must Run Services Settlement	\$0.0
Reliability Must Run for Capacity	\$0.0
Real-Time Revenue Neutrality Settlement	( \$0.19)
Emergency Energy Settlement	\$1.02
Base Point Deviation Settlement	(\$0.23)

**Total \$3.34**

## Fee Uplifts

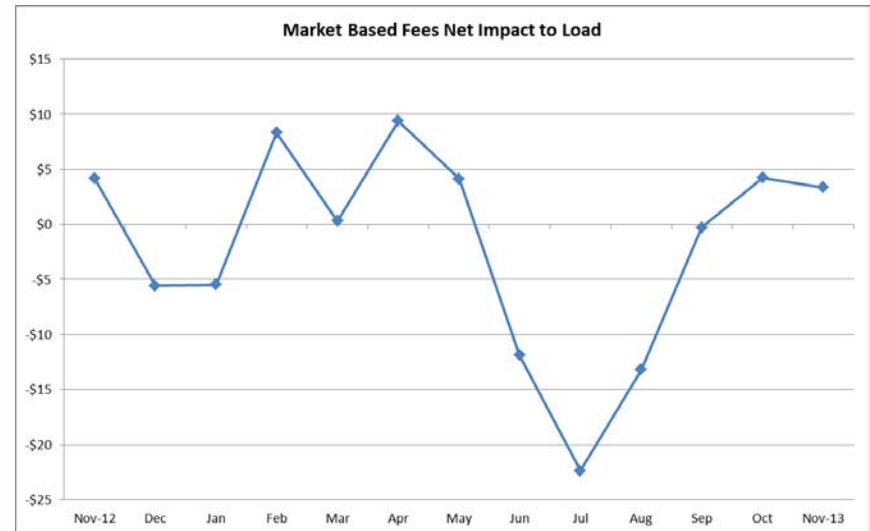
ERCOT Administrative Fee Settlement	\$10.12
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**Net Uplift Charge to Load \$13.47**

Net uplift to Load decreased from last month and from November of 2012

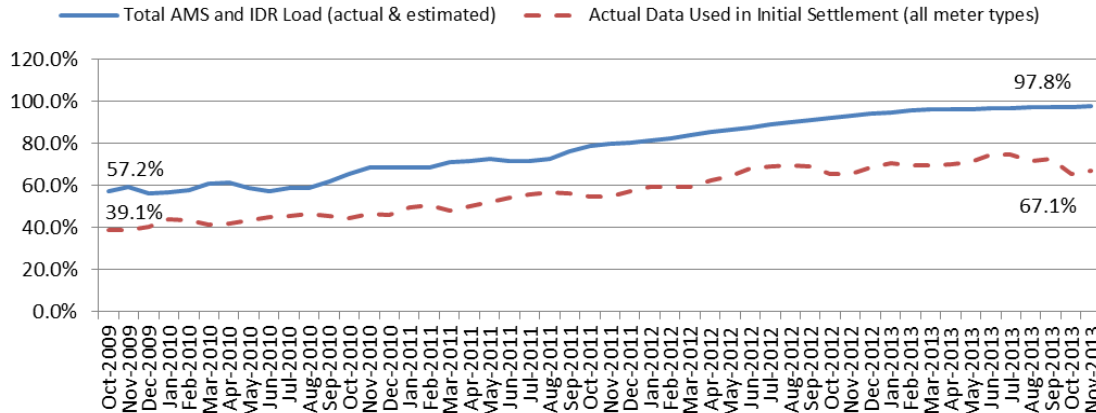
November 2013 was a charge of \$13.47M, compared to:

- A charge of \$15.02M in October 2013
- A charge of \$13.51M in November 2012



# Advanced Meter Settlement Impacts – November 2013

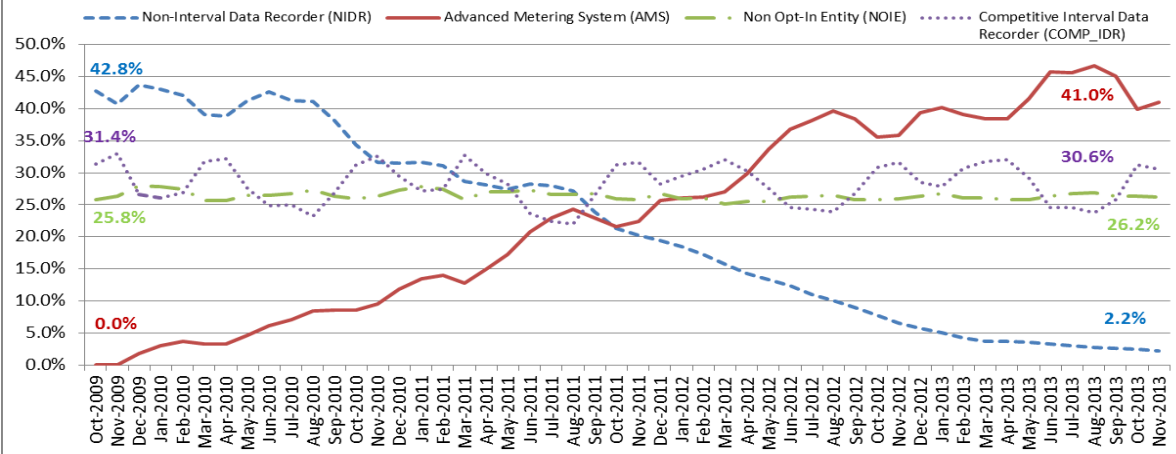
Percent Actual/Percent Interval Data Recorder (IDR)



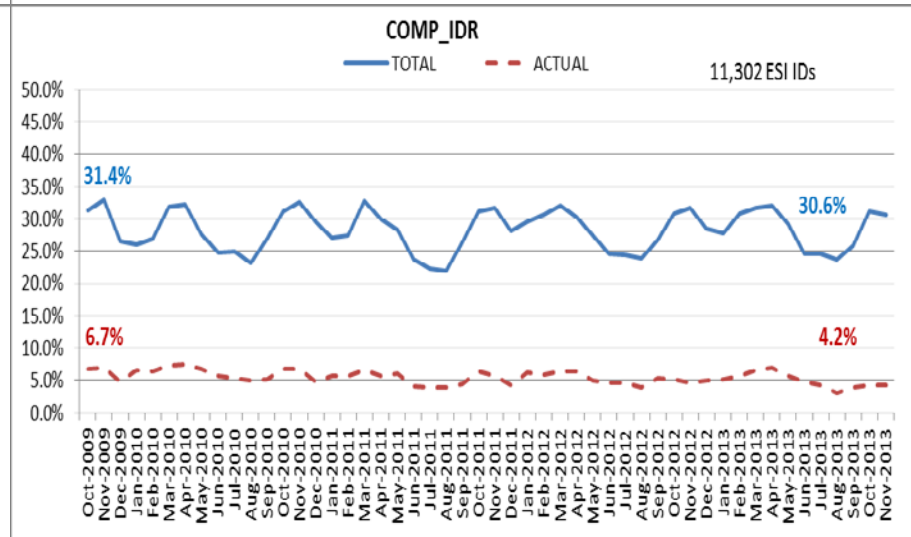
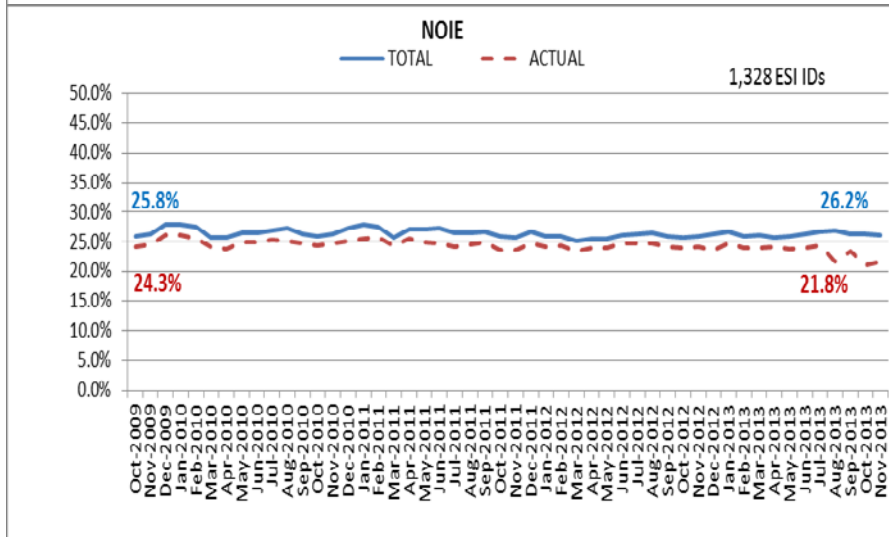
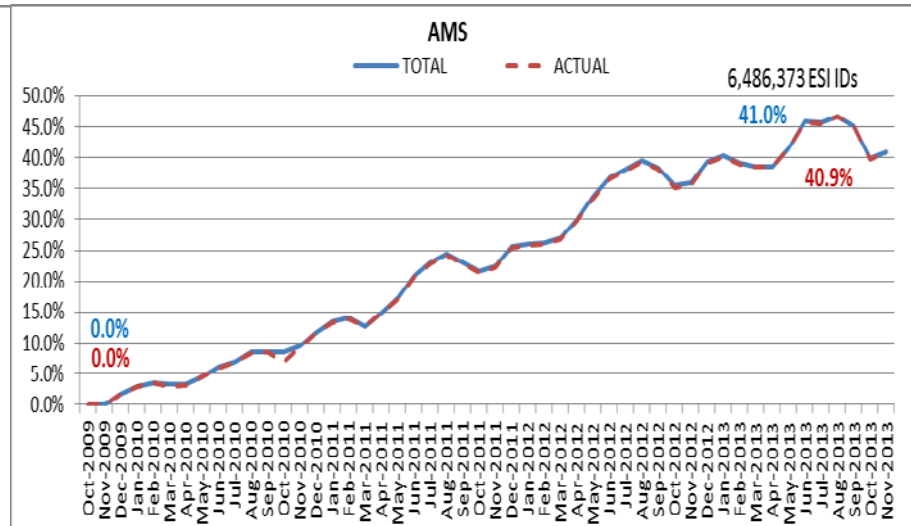
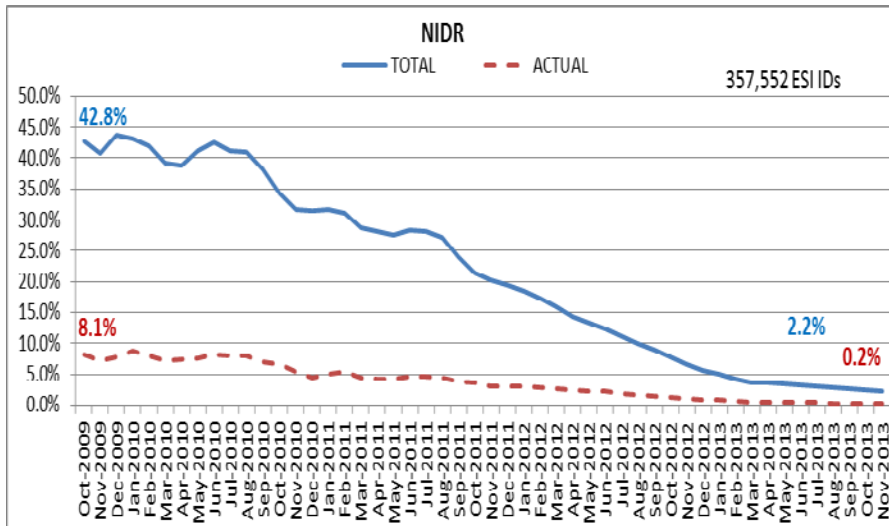
November 2013: At month end, settling 6.4M ESIIDs using Advanced Meter data.

November 2013: 97.8% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

Percent of Load by Meter Type



# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – November 2013

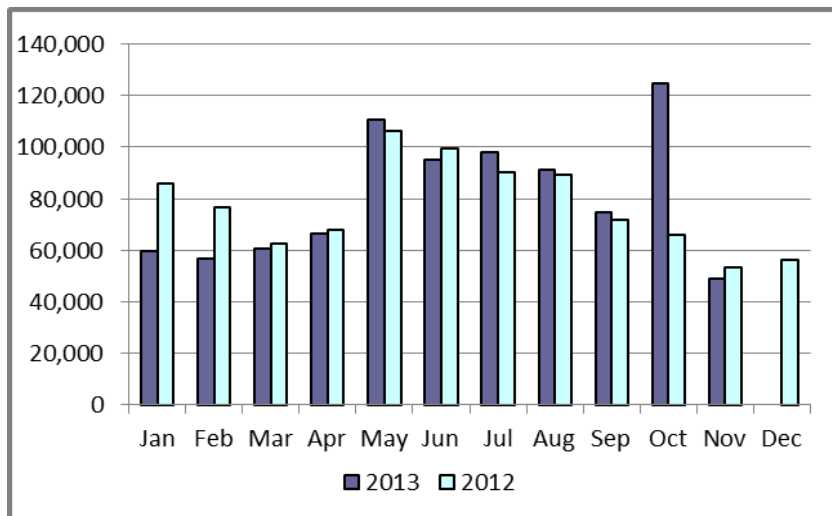


# Retail Transaction Volumes – Summary – November 2013

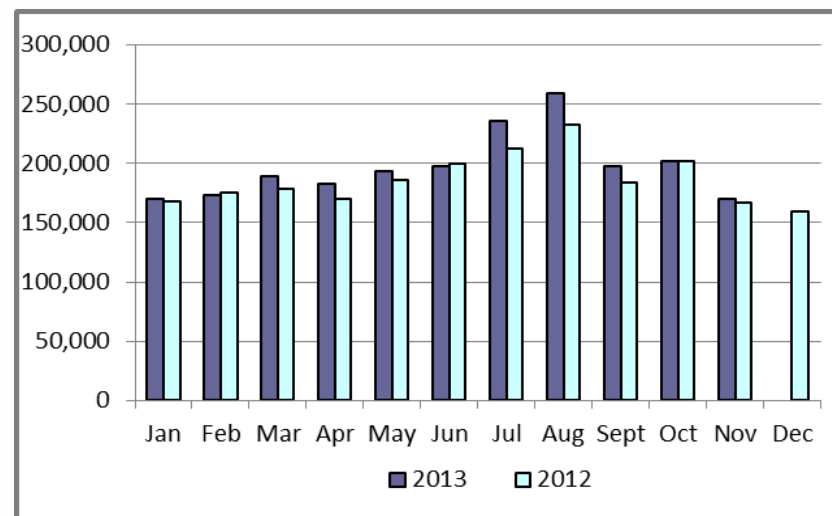
Transaction Type	Year-To-Date		Transactions Completed	
	November 2013	November 2012	November 2013	November 2012
Switches	885,982	868,655	48,738	53,261
Acquisition	134	0	0	0
Move - Ins	2,171,242	2,076,338	169,696	166,728
Move - Outs	1,056,323	1,029,487	78,890	84,684
Continuous Service Agreements (CSA)	551,986	653,898	37,877	46,792
Mass Transitions	0	5,518	0	0
<b>Total</b>	<b>4,665,667</b>	<b>4,633,896</b>	<b>335,201</b>	<b>351,465</b>
<b>Total since June 1, 2001</b>	<b>54,557,193</b>			

# Retail Transaction Volumes – Summary – November 2013

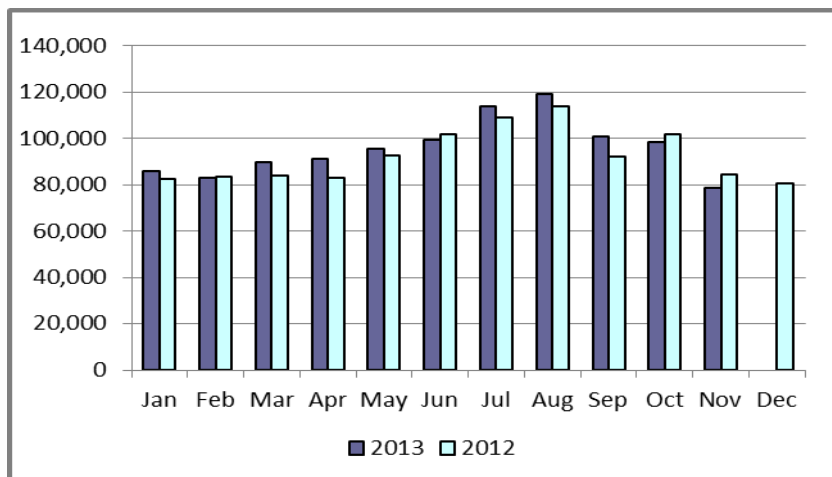
## Switches/Acquisitions



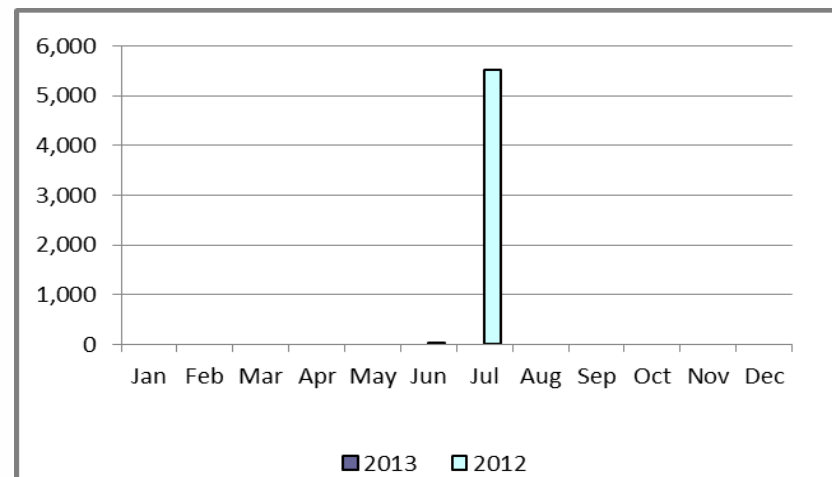
## Move-Ins



## Move-Outs



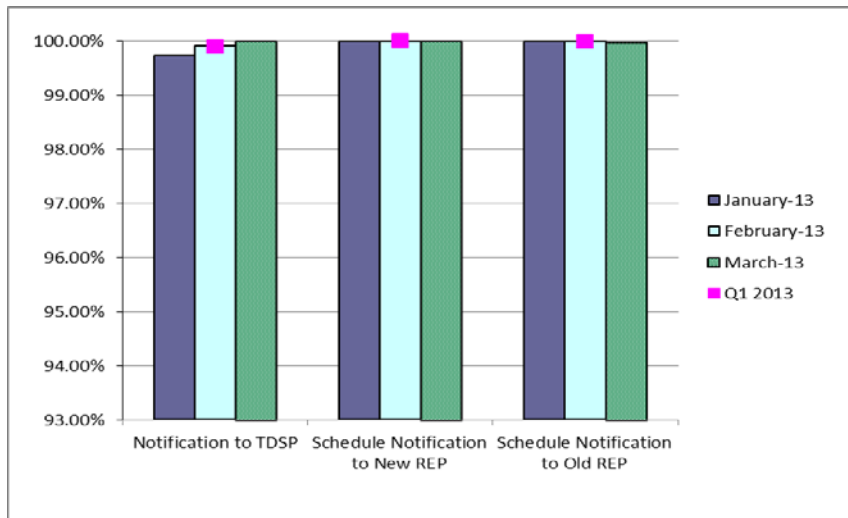
## Mass Transition



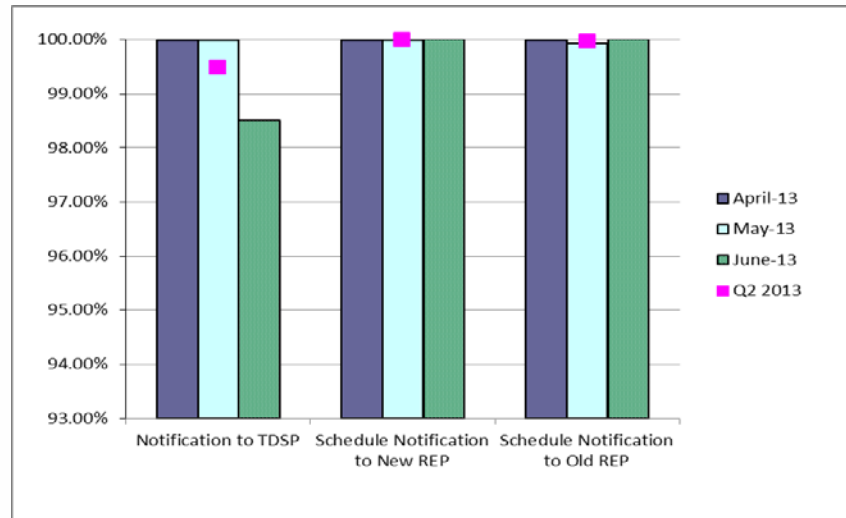


# Retail Performance Measures – Switch – November 2013

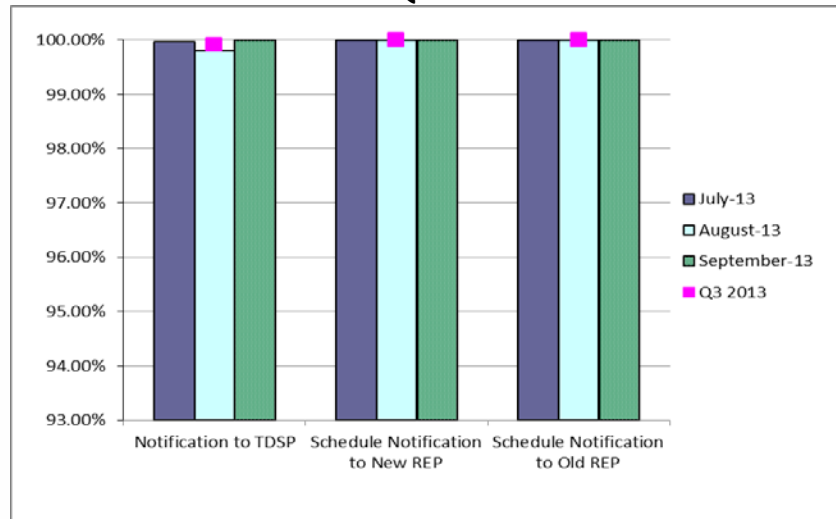
## 1<sup>st</sup> Quarter



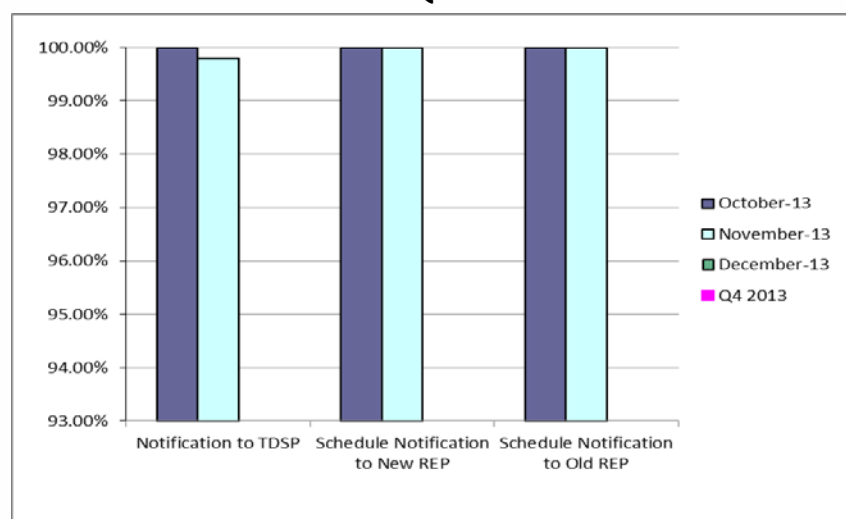
## 2<sup>nd</sup> Quarter



## 3<sup>rd</sup> Quarter

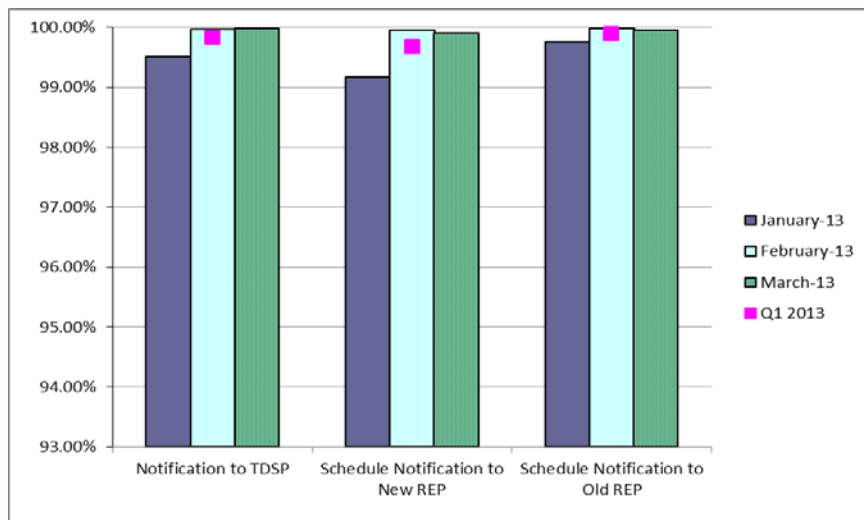


## 4<sup>th</sup> Quarter

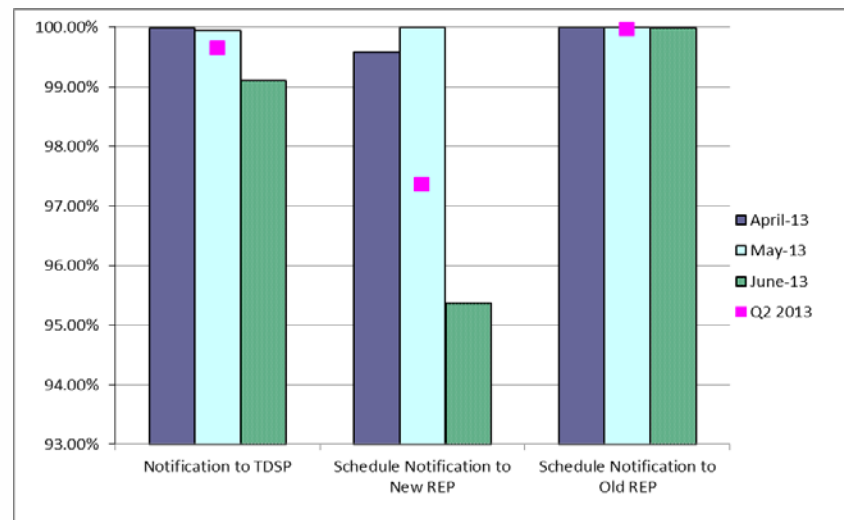


# Retail Performance Measures (Same Day Move-In) – November 2013

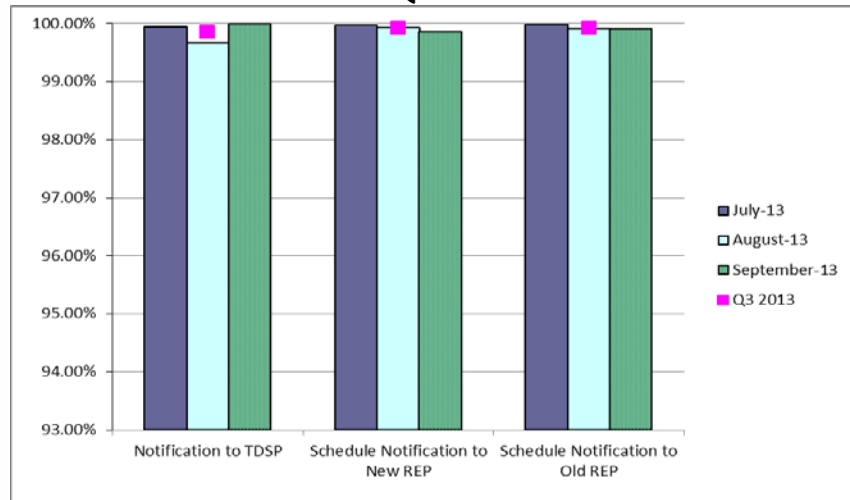
## 1<sup>st</sup> Quarter



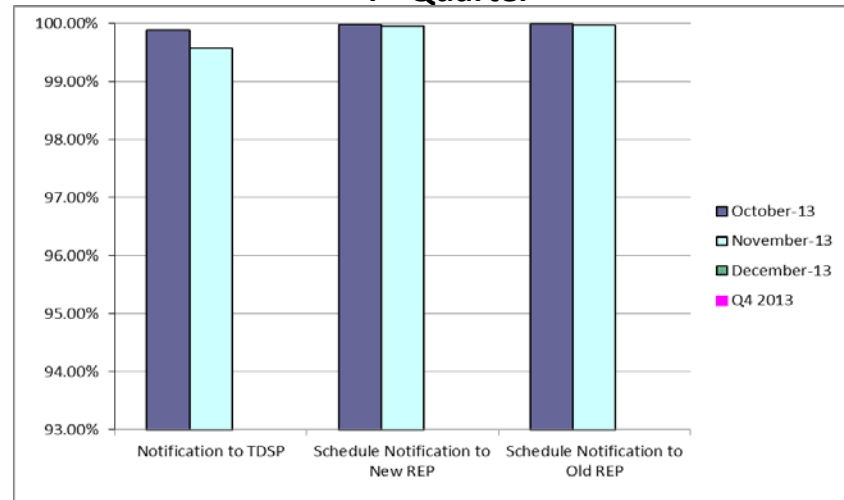
## 2<sup>nd</sup> Quarter



## 3<sup>rd</sup> Quarter

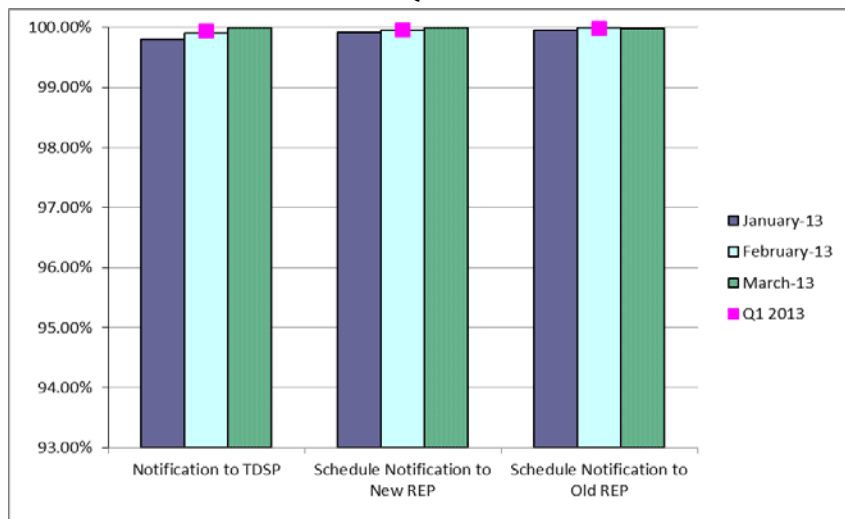


## 4<sup>th</sup> Quarter

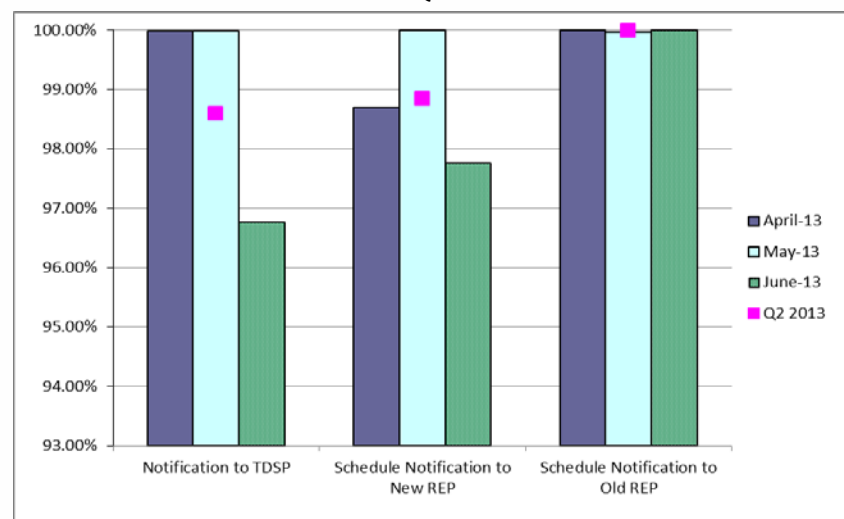


# Retail Performance Measures (Standard Move-In) – November 2013

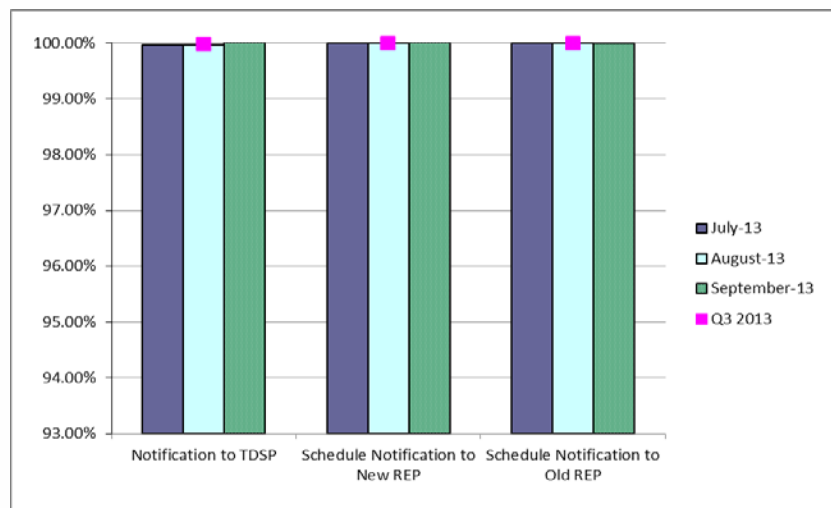
## 1<sup>st</sup> Quarter



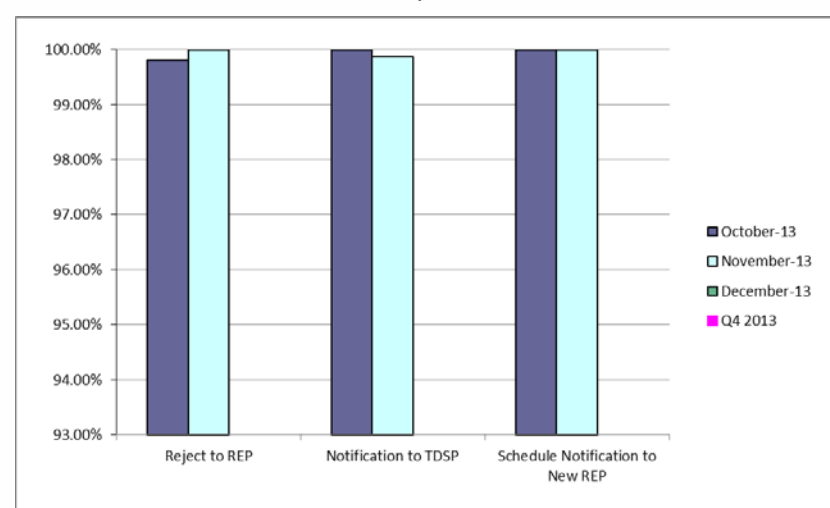
## 2<sup>nd</sup> Quarter



## 3<sup>rd</sup> Quarter



## 4<sup>th</sup> Quarter



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# **Projects Report**

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# ERCOT Portfolio Stoplight Report (as of 12/12/2013)

PROJECTS IN FLIGHT (Count = 55) Sorted by Phase / Project Num										\$ 13,632,359	\$ 12,478,008		8%	\$ 39,994,228	\$ 36,542,033		8%
Project Number	Projects in Initiation Phase	Phase	Schedule dates as of 12/11/2013										2013 Variance				Total Variance
074-02	Mobile Device Management	Initiation											0%				0%
120-01	IT Production Hardening	Initiation											0%				0%
121-01	2013/2014 Network Refresh	Initiation											0%				0%
123-01	ERCOT Native Load Calculation	Initiation											0%				0%
SCR769	CRRAH Digital Certificate New Role for Read Only Access	Initiation											0%				0%
SCR772	New Extract for Five Minute Interval Settlement Data	Initiation											0%				0%
Project Number	Projects in Planning Phase	Phase	Baseline Phase Start	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Status						2013 Variance				Total Variance
052-01	EMS Upgrade	Planning Ph2	8/7/2013	10/30/2014	TBD	5/30/2014	34%						14%				9%
065-01	NMMS Upgrade	Planning	5/1/2013	3/1/2014	TBD	3/7/2014	-1%						10%				11%
089-01	Information Technology Change Management	Planning	4/10/2013	4/2/2014	TBD	4/1/2014	0%						3	-7%			9%
097-01	ABB MMS OS Technology Refresh	Planning	5/29/2013	2/4/2014	TBD	2/4/2014	0%						59%				67%
104-01	Disaster Recovery: S&B, RTL, MDT	Planning	5/15/2013	11/15/2013	TBD	1/21/2014	3	-36%					-3%			3	-5%
106-01	MP Online Data Entry - Ph 1	Planning	10/9/2013	3/5/2014	TBD	3/26/2014	8	-14%					0%			8	-8%
107-01	IBM AIX Operating System Upgrades	Planning	10/16/2013	11/20/2013	TBD	1/29/2014	8	-200%					3	-21%		3	-42%
110-01	Taylor Control Room Upgrade	Planning	10/9/2013	2/19/2014	TBD	2/19/2014	0%						-3%				0%
114-01	Lawson Security	Planning	10/16/2013	1/29/2014	TBD	1/29/2014	0%						0%				4%
115-01	Intrusion Prevention System	Planning	11/13/2013	3/26/2014	TBD	3/26/2014	0%						1%				1%
116-01	Collage Replacement	Planning	10/23/2013	2/5/2014	TBD	2/5/2014	0%						0%				23%
Various	2014 Market System Enhancements	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						25%				22%
118-01	Mitigation Plan RTCA Enhancements	Planning	11/20/2013	2/5/2014	TBD	2/5/2014	0%						25%				25%
119-01	CREZ Voltage Control and Coordination	Planning	11/20/2013	3/5/2014	TBD	3/5/2014	0%						0%				22%
122-01	Infoblox DNS/DHCP	Planning	12/11/2013	2/19/2014	TBD	2/19/2014	0%						5%				0%
NPRR240	Proxy Energy Offer Curve	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
NPRR495	Changes to Ancillary Services Capacity Monitor	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
NPRR532	Performance Measurement and Verification and Telemetry Requirements for Load Resources Providing Non-Spin	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
NPRR555	Load Resource Participation in Security-Constrained Economic Dispatch	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
NPRR564	Thirty-Minute Emergency Response Service (ERS) and Other ERS Services	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
NPRR568	Real-Time Reserve Price Adder Based on Operating Reserve Demand Curve	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
OBD	Setting the Shadow Price Caps and Power Balance Penalties in Security-Constrained Economic Dispatch	Planning	12/4/2013	12/31/2013	TBD	12/31/2013	0%						0%				0%
SCR756	MarkeTrak Enhancements - Remaining SCR756 Items	Planning	10/16/2013	1/15/2014	TBD	1/15/2014	0%						11%				7%



# ERCOT Portfolio Stoplight Report (as of 12/12/2013)

Project Number	Projects in Execution Phase	Phase	Baseline Phase Start	Baseline Go-Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Status			2013 Variance		Total Variance
016-01	ADP-IDM Interface	Execution	11/6/2013	3/13/2014	3/13/2014	4/23/2014	0%			34%		11%
017-01	Oracle 11g Upgrade	Execution	10/10/2012	4/2/2014	3/31/2014	5/14/2014	0%			0%		7%
047-01	CMSDK/MIR Replacement	Execution	4/24/2013	12/8/2013	3/31/2014	5/21/2014	3 -49%			3 -20%	3	-40%
057-01	EPS Metering DB Redesign	Execution	4/17/2013	9/6/2013	7/28/2014	8/7/2014	3 -228%			3 -35%	3	-139%
066-01	Planning Site Transition to MIS	Execution	10/16/2013	5/2/2014	5/2/2014	7/2/2014	0%			-2%		9%
077-01	Contract Lifecycle Management	Execution	9/11/2013	5/5/2014	5/5/2014	7/23/2014	0%			-2%		-1%
083-01	Centralized Application Log Management	Execution	8/28/2013	5/7/2014	5/7/2014	5/21/2014	0%			1%		-1%
088-0x	Capital Efficiencies and Enhancements - 2013	Execution	8/16/2012	12/31/2013	12/31/2013	12/31/2013	0%			3 -16%	3	-16%
101-01	Emergency Notification System Hardware Refresh	Execution	11/13/2013	1/24/2014	1/24/2014	2/26/2014	0%			-3%		0%
108-01	Alstom Load Forecasting Upgrade	Execution	11/20/2013	2/11/2014	2/11/2014	4/3/2014	0%			3 -19%		26%
113-01	Dev Hardware Refresh and Virtualization Expansion	Execution	11/13/2013	1/24/2014	1/24/2014	2/25/2014	0%			-3%	3	-7%
10052_01	Settlement System Upgrade	Execution	1/25/2012	10/10/2014	10/10/2014	3/17/2015	0%			0%		0%
2013 PC	Program Control - 2013	Execution	8/16/2012	12/31/2013	12/31/2013	12/31/2013	0%			1%		1%
99913	Minor Cap - 2013	Execution	1/1/2013	12/31/2013	12/31/2013	12/31/2013	0%			8%		8%
NPRR425	Creation of a WGR Group for GREDP and Base Point Deviation Evaluation	Execution	8/21/2013	2/28/2014	3/3/2014	3/31/2014	-1%			48%		42%
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments	Execution	7/17/2013	10/21/2013	10/21/2013	12/31/2013	0%			-1%		0%
NPRR485	Clarification for Fuel Adder Provisions	Execution	10/23/2013	2/28/2014	2/28/2014	3/31/2014	0%			0%		0%
NOGRR105	Generation Resource Frequency Response Test Procedure	Execution	12/4/2013	2/7/2014	2/7/2014	3/26/2014	0%			0%		0%
Project Number	Projects in Stabilization	Phase	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Schedule Status			2013 Variance		Total Variance
038-01	Macomber Map NERC SA/Compliance Enhancements	Execution	9/19/2012	12/7/2012	12/4/2013	12/17/2014	1 -458%			1 -34%	1	-10%
059-01	Security Information and Event Management (SIEM) Upgrade	Execution	5/8/2013	11/15/2013	11/15/2013	1/29/2014	0%			52%		24%
095-01	Mobile Application Enhancement	Execution	5/8/2013	9/5/2013	8/16/2013	10/21/2013	16%			3 -19%	3	-19%
109-01	OTS Forum Hotline	Execution	10/2/2013	11/4/2013	11/4/2013	12/5/2013	0%			1%		1%
111-01	Quality Center Upgrade	Execution	10/30/2013	11/21/2013	11/20/2013	12/11/2013	4%			11%		11%
NPRR407	Credit Monitoring Posting Requirements - CRR Portion	Execution	10/23/2013	12/13/2014	12/13/2014	12/31/2014	0%			0%		0%
NPRR476	Market Submitted Energy Offer Curves Disclosures	Execution	8/28/2013	12/11/2013	12/11/2013	1/8/2014	0%			0%		1%
NPRR492	Addition of System Lambda Information	Execution	7/24/2013	12/13/2013	12/13/2013	12/20/2013	0%			0%		0%



# ERCOT Portfolio Stoplight Report (as of 12/12/2013)

Project Number	Projects Not Yet Started	Phase	Forecast Start Date						Sum of 2013 Budgets	2013 Forecast Spend	2013 Variance	Sum of Total Budgets	Total Forecast Spend	Total Variance
<b>PROJECTS NOT YET STARTED (Count = 13) Sorted by Start Date</b>									\$ 17,355	\$ -		\$ 2,958,324	\$ 2,915,674	
NPRR439	Updating a Counter-Party's Available Credit Limit for Current Day DAM	Not Started	Jan 2014											
2	SQL Server 2012 Upgrade / Cluster Consolidation	Not Started	Jan 2014											
TBD	Symposium Call Center Replacement	Not Started	May 2014											
2	Voice Over IP (VOIP) Replacement for PBX	Not Started	Jan 2014											
4	Enterprise Vault Upgrade	Not Started	Apr 2014											
3	Email Redundancy	Not Started	Apr 2014											
R	Net Backup Architecture Redesign	Not Started	Apr 2014											
NPRR272	Definition and Participation of Quick Start Generation Resources	Not Started	Jul 2014											
SCR771	ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources	Not Started	Jul 2014											
NPRR256	Sync with PRR787, Add Non-Compliance Language to QSE Performance Standards	Not Started	Aug 2014											
NOGRR084	Daily Grid Operations Summary Report	Not Started	Sep 2014											
NPRR419	Revise Real Time Energy Imbalance and RMR Adjustment Charge	Not Started	Jan 2015											
NPRR493	Half-Hour RUC Clawback	Not Started	Jan 2015											
Project Number	Projects Completed in the Current Year	Phase	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status		Sum of 2013 Budgets	2013 Actual Spend	2013 Variance	Sum of Total Budgets	Total Actual Spend	Total Variance
<b>PROJECTS COMPLETED IN 2013 (Count = 51) Sorted by Project</b>									\$ 5,390,861	\$ 3,913,764	27%	\$ 12,434,064	\$ 10,045,235	19%
NPRR207	Unit Deselection	Closing	5/22/2013	9/26/2013	9/26/2013	10/16/2013	0%				17%			17%
NPRR385	Negative Price Floor	Closing	5/22/2013	9/26/2013	9/26/2013	10/25/2013	0%				42%			42%
NPRR416	Removal of the RUC Clawback Charge for Resources Other than RMR Units	Closing	4/10/2013	9/27/2013	9/26/2013	10/24/2013	0%				22%			22%
NPRR514	Seasonal Generation Resource	Closing	6/5/2013	9/29/2013	9/29/2013	10/29/2013	0%				2%			2%
SCR770	Revision to Outage Scheduling Entry for Resource Maintenance Outage Level Designation	Closing	3/14/2013	9/27/2013	9/24/2013	11/16/2013	1%				63%			64%
055-01	Siebel Upgrade 8.x	Closing	3/13/2013	7/28/2013	9/29/2013	10/30/2013	3 -45%				3 -32%		3	-22%
072-01	OSI PI Upgrades - EMS Production	Closing	4/17/2013	10/1/2013	10/2/2013	11/1/2013	0%				27%			27%
075-01	Operator Data Display	Closing	4/10/2013	12/8/2013	12/8/2013	12/12/2013	0%				35%			37%
081-01	Additional Resource Data for Outage Scheduler	Closing	5/29/2013	9/26/2013	9/24/2013	11/6/2013	1%				40%			40%
098-01	EPG Synchrophasor Upgrade	Closing	5/8/2013	9/16/2013	9/16/2013	10/2/2013	0%				0%			0%





# ERCOT Portfolio Stoplight Report (as of 12/12/2013)

Project Number	Projects Completed in the Current Year	Phase	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status	Sum of 2013 Budgets	2013 Actual Spend	2013 Variance	Sum of Total Budgets	Total Actual Spend	Total Variance
NPRR260	Providing Access to MIS Secure Area to MIS Registered Users	Complete	10/3/2012	2/15/2013	2/15/2013	3/13/2013	0%			3	-62%		19%
NPRR313	Updating the Term Resource Plan to Current Operating Plan / Availability Plan	Complete	8/22/2012	2/15/2013	2/15/2013	3/27/2013	0%				42%		30%
NPRR322	Real-Time PTP Option Modeling	Complete	8/1/2012	2/15/2013	2/15/2013	3/27/2013	0%				27%		1%
NPRR347	Implementation of NPRR347 and NPRR400	Complete	3/29/2012	2/15/2013	2/15/2013	3/27/2013	0%				55%	3	-13%
NPRR377	Alternate Inputs to Base Point Deviation Charge	Complete	9/26/2012	2/15/2013	2/15/2013	3/13/2013	0%				74%		28%
NPRR393	SCED Constraint Management Transparency	Complete	3/13/2013	8/8/2013	8/8/2013	10/11/2013	0%			3	-9%	3	-8%
NPRR397	Balance of the Day Ancillary Service Market	Complete	9/19/2012	2/15/2013	2/15/2013	3/27/2013	0%				41%		35%
NPRR407	Credit Monitoring Posting Requirements - MMS/CDR Portion	Complete	9/19/2012	2/15/2013	2/15/2013	3/27/2013	0%				42%		20%
NPRR456	Clarification of Definition of Electrically Similar Settlement Points and Heuristic Pricing Posting	Complete	2/14/2013	4/25/2013	4/25/2013	6/19/2013	0%				20%		21%
NPRR457	Daily Update of New ESI IDs and AMS Meter and Switch Hold Indicators Changes	Complete	4/10/2013	9/29/2013	9/26/2013	10/16/2013	1%				57%		57%
NPRR461	Energy Storage Settlements Consistent with PUCT Project 39917	Complete	3/13/2013	7/30/2013	7/30/2013	8/20/2013	0%				0%		2%
NPRR463	CRR Auction Structure Enhancements	Complete	12/20/2012	4/5/2013	4/1/2013	6/5/2013	3%				43%		35%
NPRR469	Modifications to CCTs	Complete	9/19/2012	2/15/2013	2/15/2013	3/27/2013	0%				49%		21%
NPRR479	Daily Net Outage MW	Complete	4/10/2013	9/29/2013	9/30/2013	10/24/2013	0%				23%		23%
NPRR481	Report of Hourly Actual System Load by Weather Zone	Complete	4/10/2013	6/13/2013	6/13/2013	7/10/2013	0%				59%		58%
NPRR520	Real-Time Mitigation Rules and Creation of a Real-Time Constraint Competitiveness Test	Complete	5/1/2013	8/1/2013	8/1/2013	8/22/2013	0%				4%		4%
NOGRR093	Synchronization with NPRR365	Complete	3/27/2013	6/14/2013	6/14/2013	7/10/2013	0%				65%		64%
NOGRR101	Market Notice for DC-TIE Outage Information	Complete	7/24/2013	9/27/2013	9/27/2013	10/30/2013	0%				0%		0%
SCR760	Recommended Changes Needed for Information Model Mgr and Topology Processor for Planning Models	Complete	8/25/2011	7/31/2013	7/31/2013	8/7/2013	0%				42%		21%
SCR768	Automatic Non-Spin Redeployment and Deployment Based on Resource Availability	Complete	9/19/2012	2/15/2013	2/15/2013	3/27/2013	0%				49%		2%
SCR773	Addition of Regulation Feedback to Generation to be Dispatched Calculation	Complete	5/3/2013	5/23/2013	5/23/2013	6/26/2013	0%				8%		8%
90006_02	Information Lifecycle Mgmt - Mkt Systems, Archive, Reporting	Complete	4/22/2011	6/26/2014	5/13/2013	5/15/2013	35%				5%		37%
006-01	SAGE (System Administrator Gateway Environment)	Complete	5/31/2012	12/19/2012	1/3/2013	1/3/2013	1	-7%		2	-296%		0%
008-01	Compliance Software Tool	Complete	12/1/2011	11/30/2012	12/19/2012	12/19/2012	1	-5%		2	-100%		20%
010-02	MarketTrak Upgrade	Complete	12/12/2012	6/22/2013	6/22/2013	8/28/2013	0%				4%		4%
019-01	ERCOT Website Enhancements - 2012	Complete	3/8/2012	12/26/2012	5/1/2013	4/24/2013	3	-43%				3	-40%
020-01	CIM Upgrade for NMMS	Complete	6/14/2012	2/15/2013	2/15/2013	3/13/2013	0%				12%		22%
021-01	Incremental Update Capability - Phase 1	Complete	3/23/2012	2/6/2013	2/13/2013	2/13/2013	-2%				0%		63%
030-01	ITRON Load Forecast	Complete	6/27/2012	2/15/2013	2/15/2013	3/20/2013	0%			5	-50%		-2%
042-01	CRR Upgrade to v12.3	Complete	5/16/2012	4/1/2013	4/1/2013	8/21/2013	0%				69%		37%
043-01	Met Center Lease Reconfiguration	Complete	9/12/2012	12/19/2012	12/19/2012	12/19/2012	0%				87%		10%
046-01	MAI Conversion to IGRID	Complete	8/2/2012	2/15/2013	2/15/2013	3/20/2013	0%			3	-357%		0%
048-01	TSAT Wind Model	Complete	8/16/2012	4/25/2013	4/25/2013	6/5/2013	0%			3	-16%		7%
067-01	Physical Security Upgrade	Complete	2/13/2013	7/26/2013	7/26/2013	7/17/2013	0%				70%		68%
074-01	Mobile Device Management - POC	Complete	3/13/2013	10/2/2013	9/25/2013	9/25/2013	3%				4%		6%
096-01	Backup Software Strategy and Proposed License Cost Reduction	Complete	5/22/2013	7/12/2013	7/12/2013	8/14/2013	0%				12%		12%
099-01	Moody's Analytics	Complete	5/15/2013	10/14/2013	9/14/2013	10/24/2013	19%				34%		34%
103-01	NAS Data Storage / File Synchronization - EMMS System and Applications	Complete	5/8/2013	9/6/2013	9/9/2013	9/10/2013	-2%				39%		39%
NPRR153	Generation Resource Fixed Quantity Block Offer	Canceled	4/10/2013	5/24/2013	n/a	n/a					85%		85%
070-01	Linux Configuration Management Tool	Canceled	1/24/2013	6/26/2013	n/a	n/a					87%		87%
071-01	Windows Server Systems Management	Canceled	1/23/2013	6/26/2013	n/a	n/a					94%		93%

## SUMMARY

		Sum of 2013 Budgets	2013 Forecast Spend	Sum of Total Budgets	Total Forecast Spend
6%	KPI Budget Measure - Execution/Completed Projects	Projects In Flight \$ 13,632,359	\$ 12,478,008	\$ 39,994,228	\$ 36,542,033
		Projects Not Yet Started \$ 17,355	TBD	\$ 2,958,324	TBD
6%	KPI Schedule Measure - Execution/Completed Project	Projects Completed \$ 5,390,861	\$ 3,913,764	\$ 12,434,064	\$ 10,045,235
		<b>TOTAL \$ 19,040,575</b>	<b>\$ 16,391,772</b>	<b>\$ 55,386,616</b>	<b>\$ 46,587,268</b>
	<b>Project Funding</b>	<b>\$ 16,000,000</b>			

## Stoplight Calculation Definitions

Schedule: Count of Execution and Completed Projects with Variance >= 10%  
/ Count of Execution and Completed Projects

Budget: (Total Budget of Execution and Completed Projects  
- Total Forecast Spend of Execution and Completed Projects)  
/ Total Budget of Execution and Completed Projects

## Footnotes

- 1 Current phase took longer than expected, resulting in additional funding and/or time required
- 2 Labor hours planned for 2012 occurred in 2013
- 3 Current phase requiring more labor than expected, resulting in additional funding and/or time required
- 4 Project temporarily placed on hold
- 5 Delay in vendor payment shifted cost from 2012 to 2013
- 6 Current demand exceeds budget
- 7 Loss of resource and transition to replacement resulted in phase delay
- 8 Resource constraints resulted in delay to current phase

