

# ERCOT Monthly Operational Overview (April 2013)

ERCOT Public May 15, 2013

# **Grid Operations & Planning**

### **April 2013 Summary**

#### **Operations**

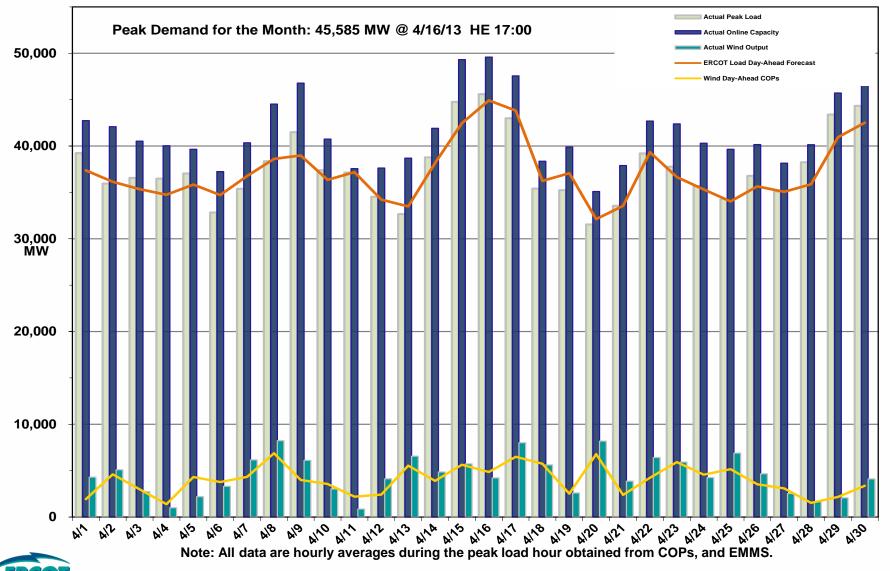
- The peak demand of 45,585 MW on April 16th was more than the mid-term forecast peak of 44,909 MW and less than the April 2012 actual peak demand of 48,774 MW. The instantaneous load on April 16th was 45,755 MW.
- Day-ahead load forecast error for April was 2.81%.
- 3 Advisories were issued for Physical Responsive Capability (PRC) below 3000 MW.
- No Watches were issued for PRC under 2500 MW.
- No Energy Emergency Alert (EEA) events issued.

#### **Planning Activities**

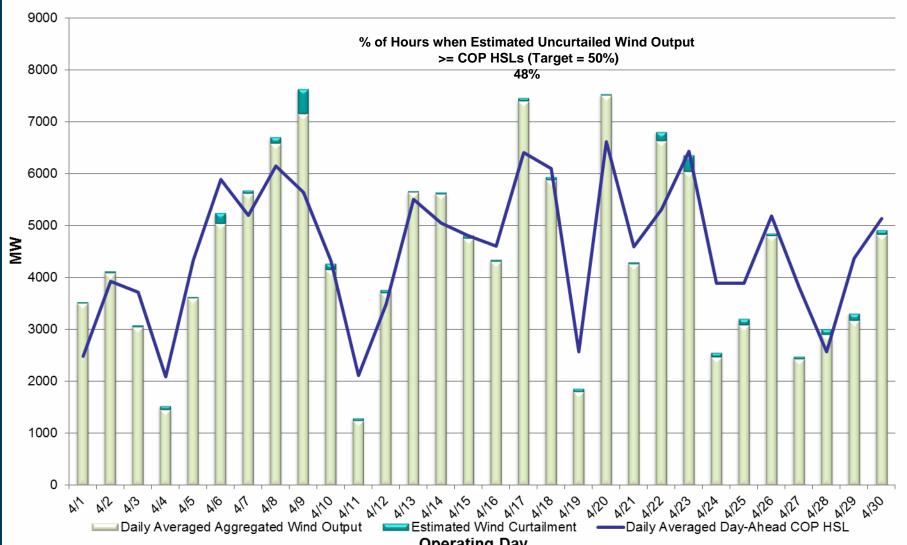
- 159 active generation interconnection requests totaling over 48,000 MW, including 20,000 MW of wind generation as of April 30, 2013. The same number of requests and total MW from March 31, 2013
- 10,570 MW wind capacity in commercial operation April 30, 2013; no change from March 31, 2013



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



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

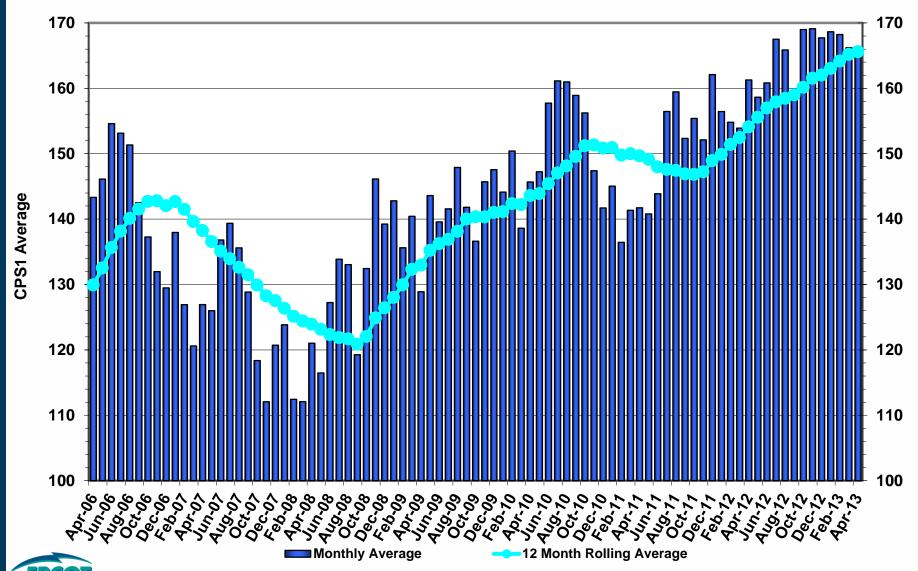




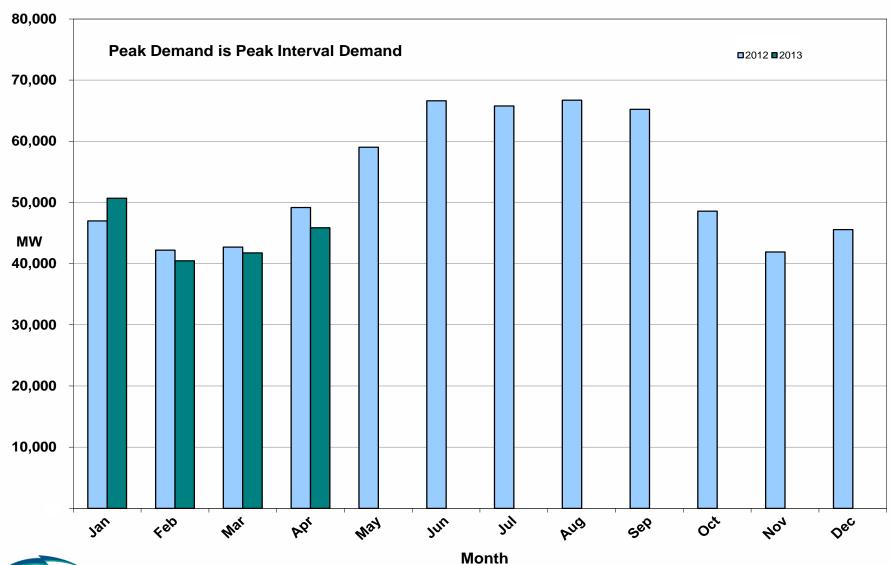
Operating Day
Note: QSEs must use the AWST 50% probability of exceedance forecast as the HSL in their COPs

**ERCOT Public** 

#### **April 2013 ERCOT's CPS1 Monthly Performance**

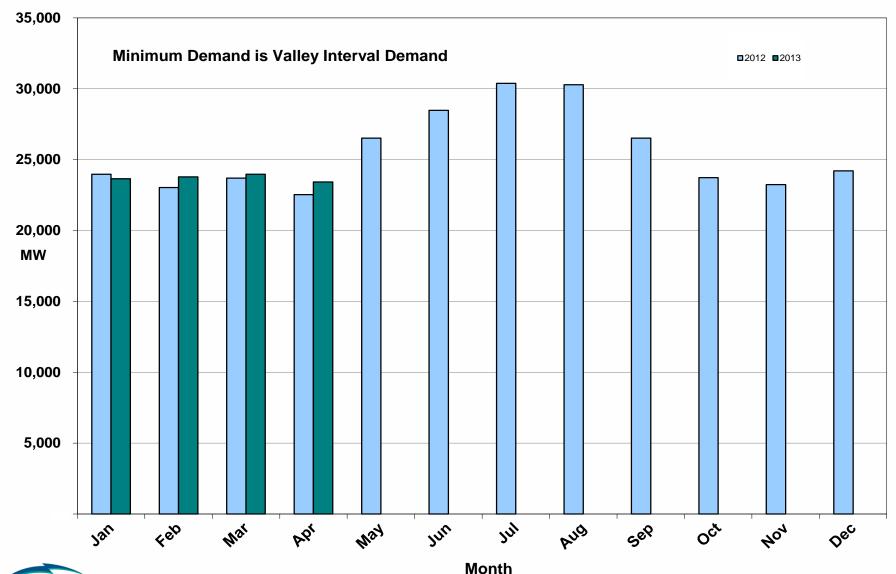


#### **April 2013 Monthly Peak Actual Demand**





#### **April 2013 Monthly Minimum Actual Demand**





#### **Day-Ahead Load Forecast Performance in April 2013**

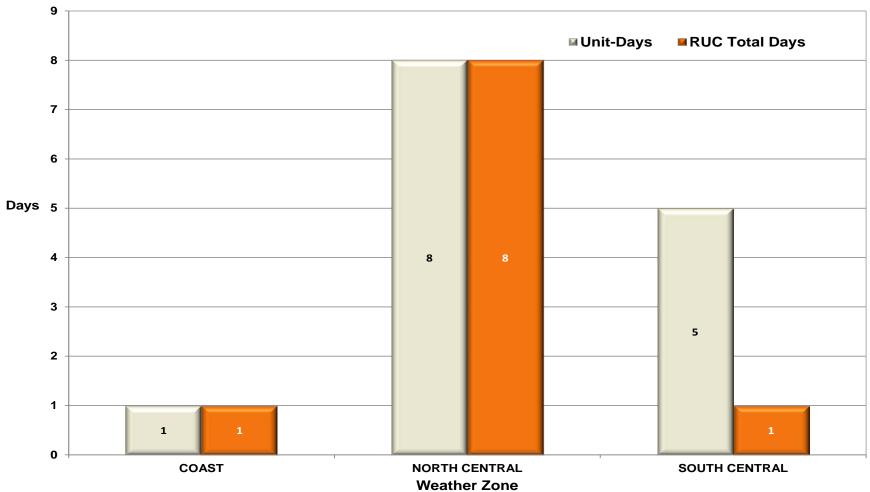
# Mean Absolute Percent Error (MAPE) for ERCOT Mid-Term Load Forecast (MTLF) Run at 14:00 Day Ahead

	2010 MAPE	2011 MAPE	2012 MAPE	2013 MAPE	Apr 2 MA	2013 .PE
Average Annual MAPE	2.83	2.83	3.02	2.96	2.8	B1
Lowest Monthly MAPE	2.24	1.63	2.51	2.68	Lowest Daily MAPE	0.99 Apr – 21
Highest Monthly MAPE	3.79	3.55	3.49	3.50	Highest Daily MAPE	5.89 Apr – 15



#### Reliability Unit Commitment (RUC) Capacity by Weather Zone in April 2013







#### **April 2013** Generic Transmission Limits (GTLs)

GTLs	Apr 12 Days GTLs	Feb 13 Days GTLs	Mar 13 Days GTLs	Apr 13 Days GTLs	Last 12 Months Total Days (Apr12 - Apr13)
North – Houston	0	0	0	0	0
West – North	17	5	9	<b>7</b> Apr(5-6,8-9,14,20,22)	124
Valley Import	0	0	0	0	0

**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 in April 2013**

- Advisories issued for Physical Responsive Capability (PRC) below 3000 MW.
  - Issued for three days (04/05,04/28-29)
- Watches issued for Physical Responsive Capability (PRC) below 2500 MW.
  - None
- Transmission Watches
  - None.
- Emergency Notice
  - None.
- Energy Emergency Alerts
  - None



#### **Significant Events in April 2013**

#### April 25<sup>th</sup>

 A frequency excursion occurred as a result of a planned ERCOT Release 2 migration of its Energy Management System. Generation was dispatched to old base points after the migration was completed. SCED was automatically triggered when frequency reached 59.91Hz, which corrected the base point values. The frequency returned to normal within six minutes. The root cause has been identified and corrected to prevent this from happening in the future during planned EMS Release 2 migrations.

# Lake Levels Update – May 1, 2013

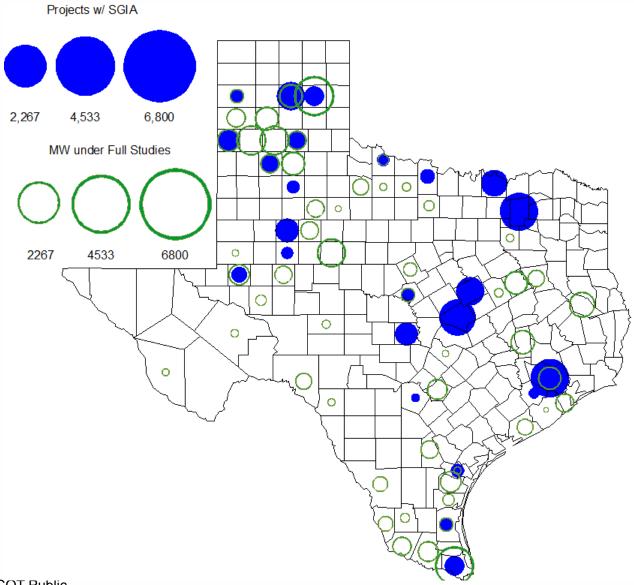
Surface Water & (MW)	*Level @ Full Conservation Pool	*Level on Jan 1, 2011	*Level on Oct 7, 2011	*Level on May 1, 2013
Lake Texana (56)	44.50	41.00	32.81	43.92
Bardwell Lake (312)	421.00	420.71	416.23	418.75
Lake Colorado City (407)	2,070.20	2057.33	2052.4	2051.82
Lake Ray Hubbard (916)	435.50	432.37	429.22	432.00
Lake Granbury (983)	693.00	691.90	686.27	686.79
Lake Houston (1016)	41.73	42.10	36.76	42.35
Twin Oaks Reservoir (1616)	400	398.87	398.27	400.12
Lake Limestone (1689)	363	359.03	354	359.79
Martin Lake (2425)	306	300.48	295.06	304.38



#### Planning Summary – April 2013

- ERCOT is currently tracking 159 active generation interconnection requests totaling over 48,000 MW. This includes almost 20,000 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$75 Million
- Transmission Projects endorsed in 2013 total \$349.8 Million
- All projects (in engineering, routing, licensing and construction) total approximately \$9.68 Billion.
- Transmission Projects energized in 2013 total about \$38.6 million.

# County Location of Planned Generation with Interconnection Requests (all fuels) April 2013

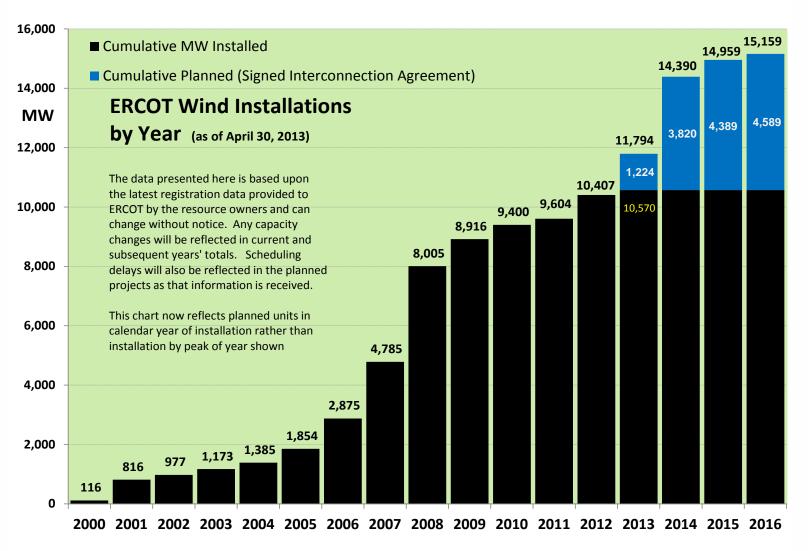


# **County Location of Planned Generation with Interconnection Requests**

(Wind) **April 2013** Projects w/ SGIA 2,267 4,533 6,800 MW under Full Studies 2267 4533 6800

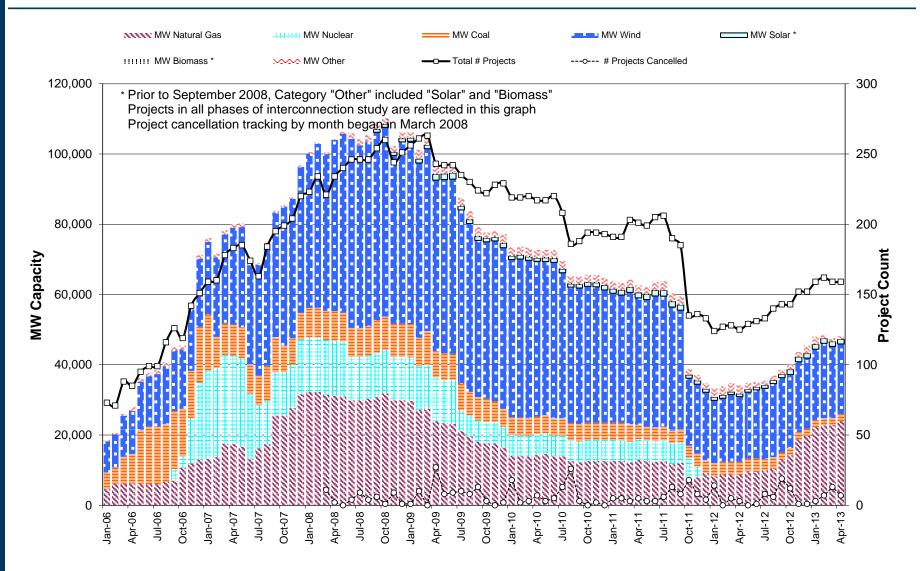


#### Wind Generation – April 2013



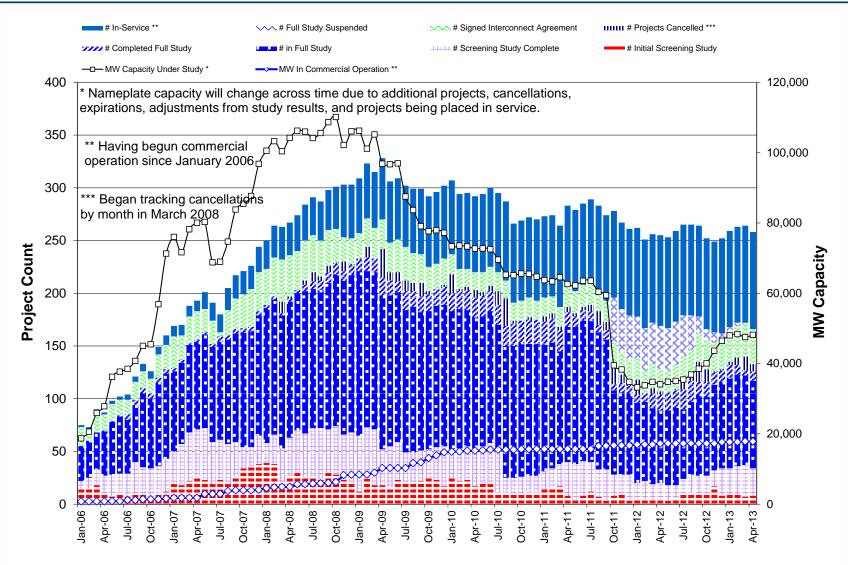


#### **Generation Interconnection Activity by Fuel – April 2013**





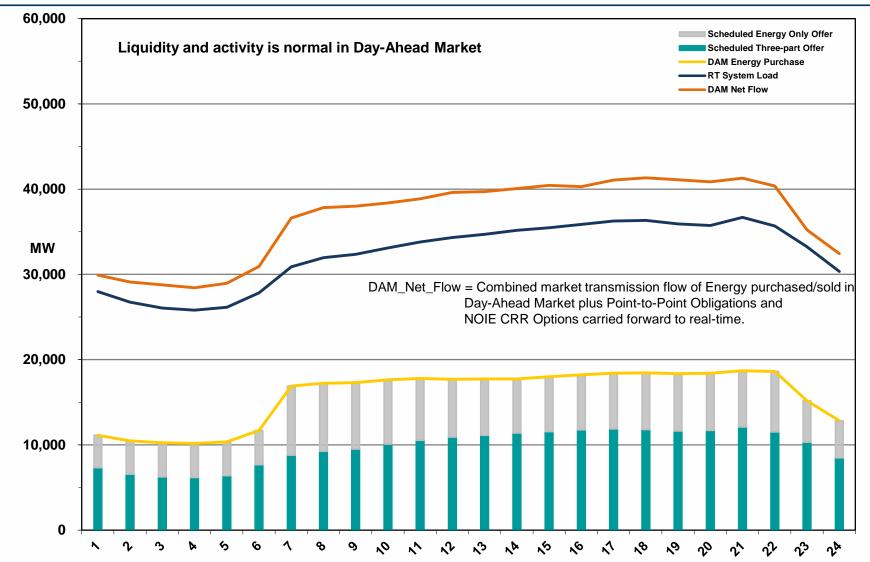
#### **Generation Interconnection Activity by Project Phase – April 2013**





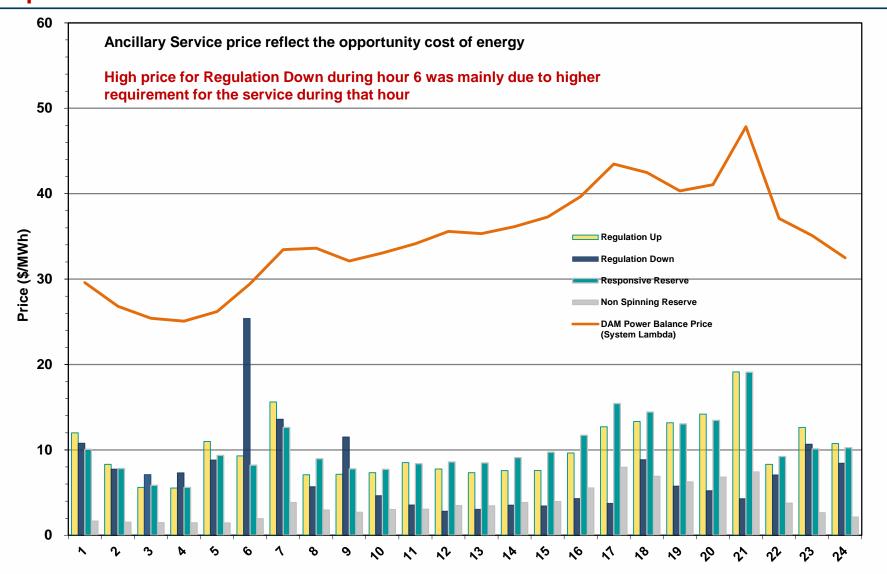
# **Market Operations**

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



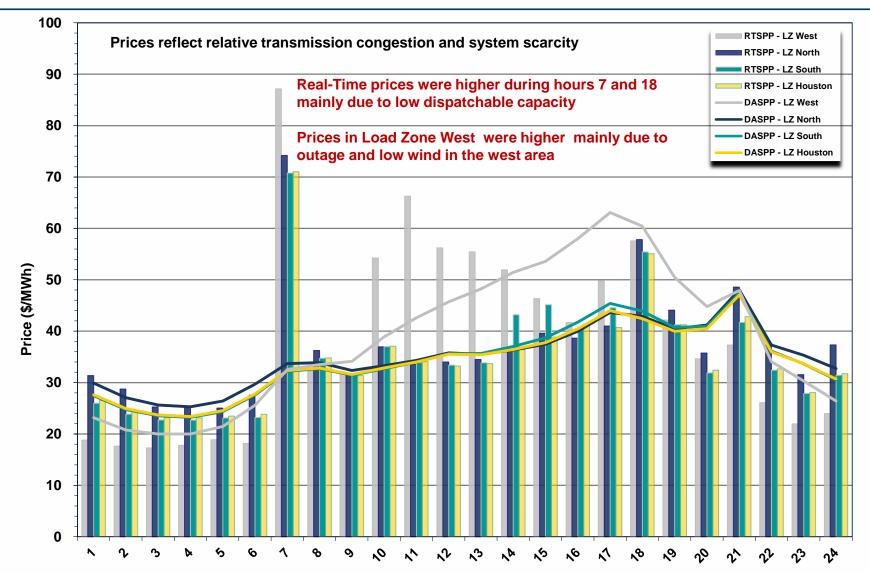


# Day-Ahead Electricity And Ancillary Service Hourly Average Prices – April 2013



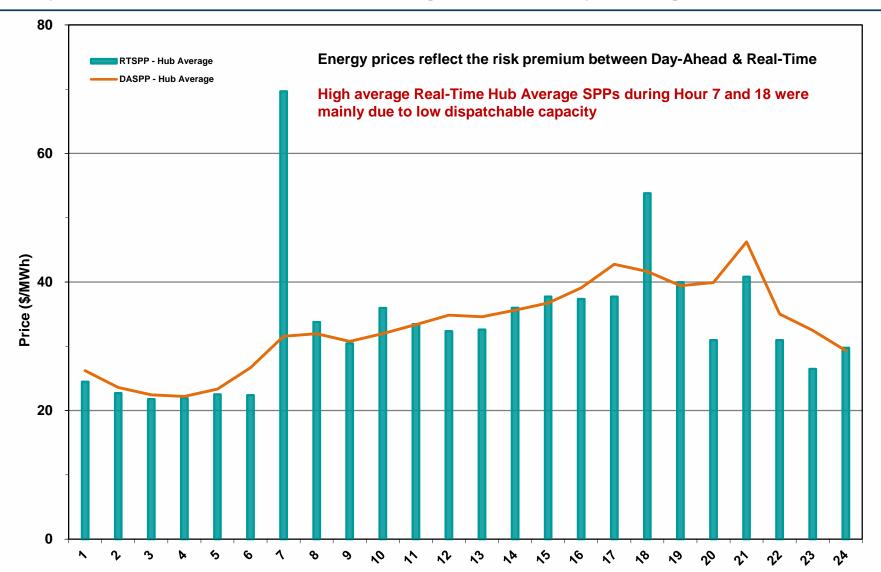


#### Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – April 2013



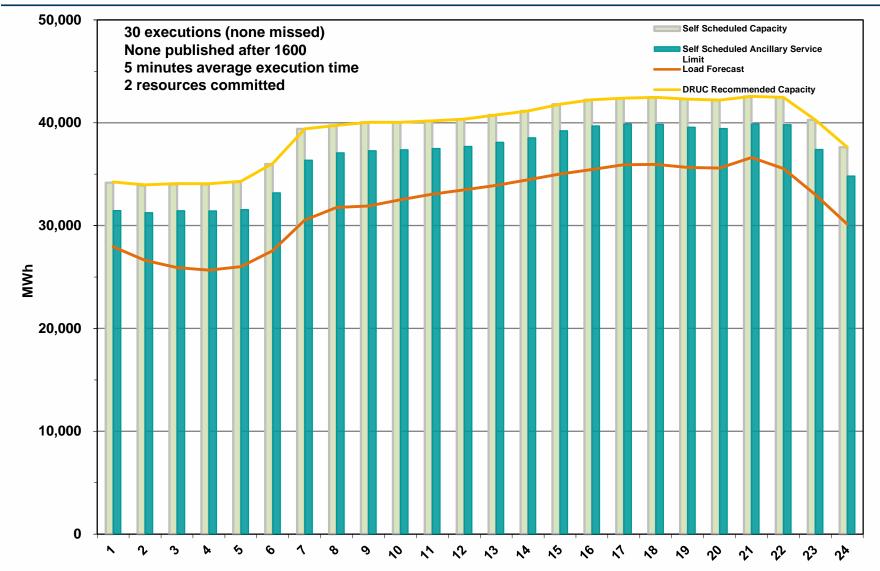


#### Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – April 2013



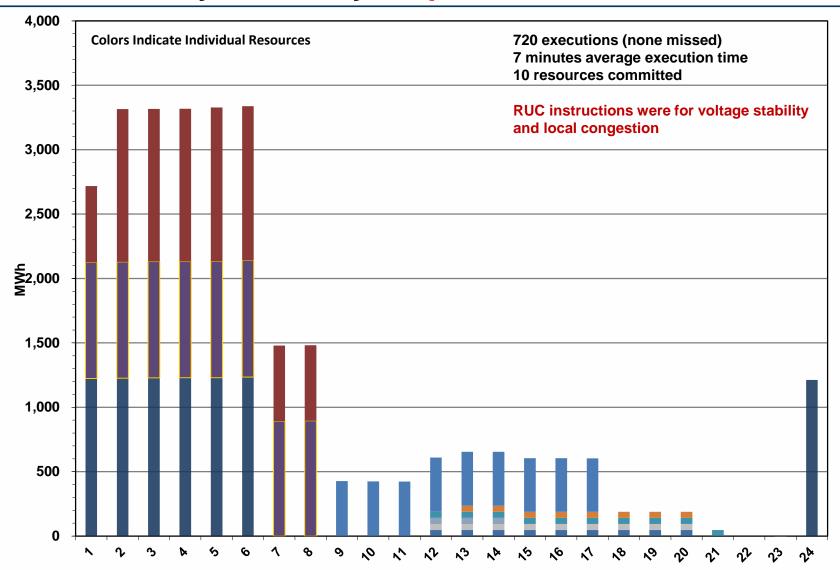


# DRUC Monthly Summary (Hourly Average) – April 2013





# **HRUC Monthly Summary – April 2013**



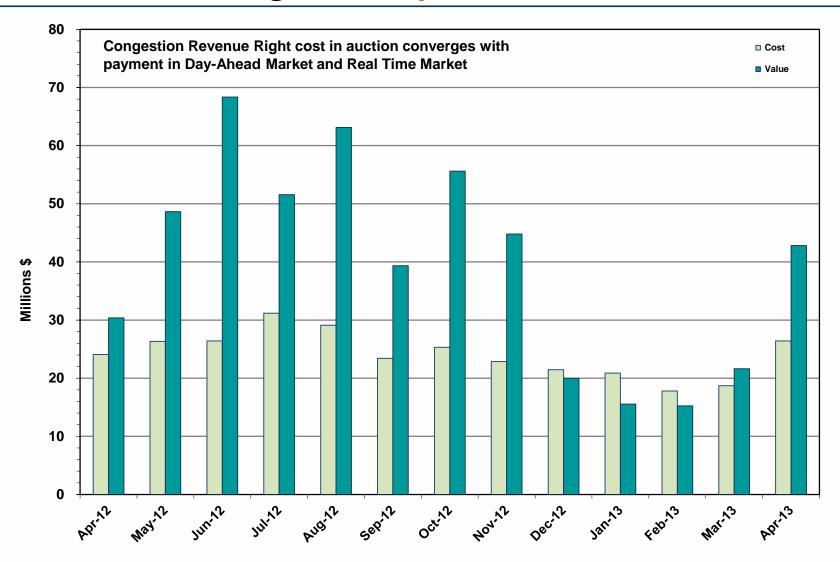


# Non-Spinning Reserve Service Deployment – April 2013

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
4/5/13 6:57AM	4/5/13 8:00AM	1.05	532.6	Diminishing reserve levels



# **CRR Price Convergence – April 2013**





### **ERS Procurement for February 2013 – May 2013**

10-Minute ERS					
	ВН1	BH2	ВН3	NBH	
MW Procured	457.70	456.48	440.83	383.61	
Average Price Per MW per Hour <sup>1</sup>	\$8.10	\$8.71	\$8.82	\$8.04	
Note: One Generator procured with an average of 1.0 MW					
30-Minute ERS	Pilot				
MW Procured	72.96	72.90	58.98	40.51	
Clearing Price <sup>2</sup>	\$7.81	\$8.60	\$8.90	\$7.80	

BH1 - Business Hours 1 HE 0900 through 1300, Monday thru Friday except ERCOT Holidays
BH2 - Business Hours 2 HE 1400 through 1600, Monday thru Friday except ERCOT Holidays
BH3 - Business Hours 3 HE 1700 through 2000, Monday thru Friday except ERCOT Holidays
NBH - Non-Business Hours All other hours

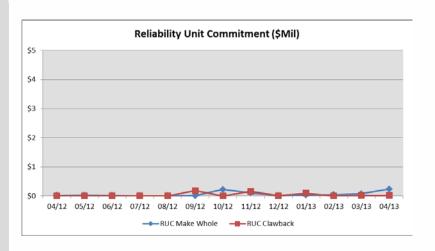
<sup>&</sup>lt;sup>2</sup> Procured using a Clearing Price Mechanism



<sup>&</sup>lt;sup>1</sup> Procured on a Pay-As-Offer basis

### Reliability Services – April 2013

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.24)
RUC Clawback Charges	\$0.01
RUC Commitment Settlement	(\$0.23)
RUC Capacity Short Charges	\$0.24
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.24
RUC Decommitment Payments	\$0.00



RUC Cost continues to trend low.

RUC Costs for April 2013 were a charge of \$0.24M, compared to:

- A charge of \$0.08 in March 2013
- A charge of \$0.01 in April 2012



# **Ancillary Services – April 2013**

Capacity Services	\$ in Millions
Regulation Up Service	\$3.77
Regulation Down Service	\$2.43
Responsive Reserve Service	\$16.7
Non-Spinning Reserve Service	\$3.95
Black Start Service	\$0.56
Voltage Services - Reactive Power	\$0.0
Voltage Services - Lost Opportunity	\$0.0
Total Capacity Service	\$27.43

Capacity Services costs were up from last month and are less than April 2012.

April 2013 cost was \$27.43M, compared to:

- A charge of \$21.99M in March 2013
- A charge of \$38.61M in April 2012



# **Energy Settlement – April 2013**

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$407.00
Point to Point Obligation Purchases	\$29.53
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$397.97)
Day-Ahead Congestion Rent	\$38.56
Day-Ahead Market Make-Whole Payments	(\$0.10)

Day-Ahead Market and Real-Time energy settlement increased from last month and is higher than April 2012.

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$522.49)
Energy Imbalance at a Load Zone	\$702.42
Energy Imbalance at a Hub	(\$138.01)
Real Time Congestion from Self Schedules	\$1.20
Block Load Transfers and DC Ties	(\$3.80)
Impact to Revenue Neutrality	\$39.32
Emergency Energy Payments	(\$1.31)
Base Point Deviation Charges	\$0.33
Real-Time Metered Generation (MWh in millions)	23.30



# Congestion Revenue Rights (CRR) – April 2013

<b>Auction Disbursements</b>	\$ in Millions
Annual Auction	(\$17.13)
Monthly Auction	(\$7.67)
Total Auction Revenue	(\$24.79)
Day-Ahead CRR Settlement	(\$42.51)
Day-Ahead CRR Short-Charges	\$6.00
Day-Ahead CRR Short-Charges Refunded	(\$2.10)
Real-Time CRR Settlement	(\$0.00)
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	(\$0.00)
Total CRR Proceeds	(\$38.60)
Day-Ahead Point to Point Obligations Settlement	\$29.53
Real-Time Point to Point Obligation Settlement	(\$44.88)
Net Point to Point Obligation Settlement	(\$15.35)

Congestion Revenue Rights were not fully funded. Excess funds were not available for distribution to load.

Distribution of balancing account funds to load for April 2013 was \$0, compared to:

- \$2.93M in March 2013
- \$3.86M in April 2012

Point to Point Obligations settled with a net gain of \$15.35 M.



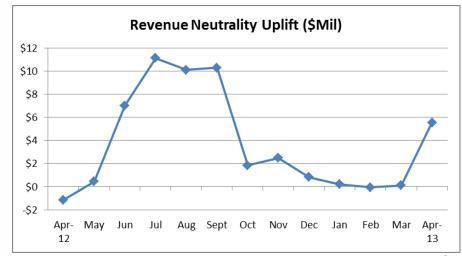
### **Revenue Neutrality – April 2013**

Revenue Neutrality Settlement	\$ in Millions
Real-Time Point to Point Obligation Settlement	
Real-Time Point to Point Options and Options with Refund Settlement	(\$0.00)
Real-Time Energy Imbalance Settlement	\$41.93
Real-Time Congestion from Self-Schedules Settlement	
DC Tie & Block Load Transfer Settlement	
Charge to Load	\$5.55

Revenue Neutrality charges to load increased compared to last month and April 2012.

April 2013 was a charge of \$5.55M, compared to:

- \$0.10M charge in March 2013
- \$1.16M credit in April 2012





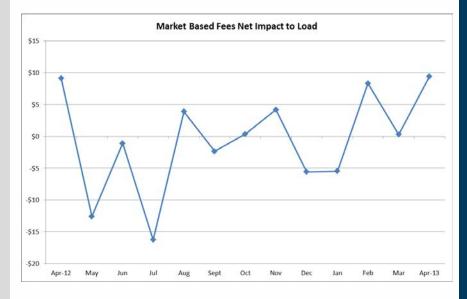
### Net Uplift to Load – April 2013

Market-Based Uplifts	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$24.79)
Balancing Account Proceeds Settlement	(\$0.00)
Net Reliability Unit Commitment Settlement	\$0.23
Ancillary Services Settlement	\$27.43
Reliability Must Run Services Settlement	\$0.0
Reliability Must Run for Capacity	\$0.0
Real-Time Revenue Neutrality Settlement	\$5.55
Emergency Energy Settlement	\$1.31
Base Point Deviation Settlement	(\$0.33)
Total	\$9.39
Fee Uplifts	
ERCOT Administrative Fee Settlement	\$9.78
Net Uplift Charge to Load	\$19.17

Net uplift to Load increased from last month and is very close to the charge from April of 2012.

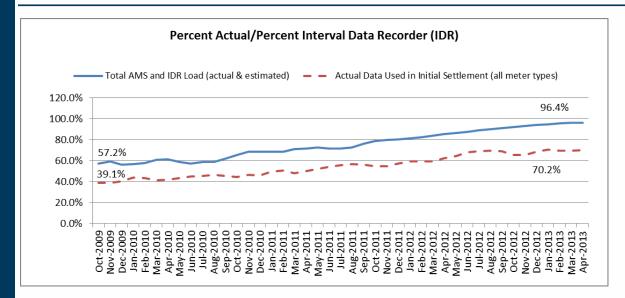
April 2013 was a charge of \$19.17M, compared to:

- A charge of \$10.03M in March 2013
- A charge of \$19.36M in April 2012



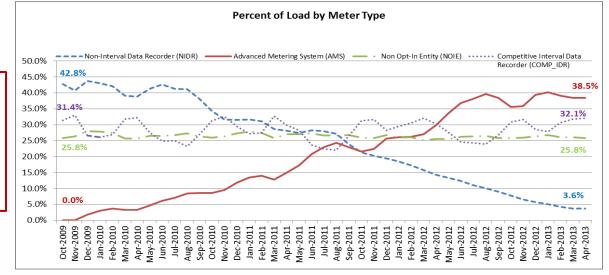


### **Advanced Meter Settlement Impacts – April 2013**



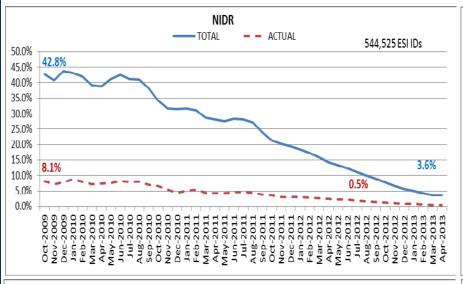
April 2013: At month end, settling 6.2M ESIIDs using Advanced Meter data.

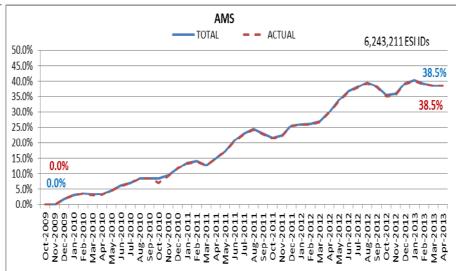
April 2013: 96.4% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

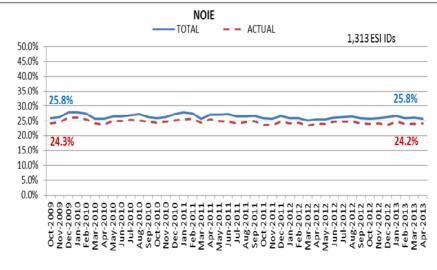


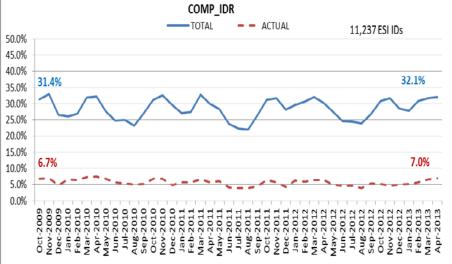


# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – April 2013











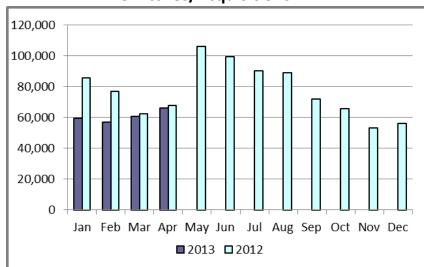
# **Retail Transaction Volumes – Summary – April 2013**

	Year-T	o-Date	Transactions Completed				
Transaction Type	Apr 2013	Apr 2012	Apr 2013	Apr 2012			
Switches	242,739	292,911	66,258	67,724			
Acquisition	126	0	0	0			
Move - Ins	715,669	692,193	183,031	170,266			
Move - Outs	349,968	332,973	91,376	83,126			
Continuous Service Agreements (CSA)	144,703	177,091	32,761	50,883			
Mass Transitions	0	0	0	0			
Total	1,453,205	1,495,168	373,426	371,999			
Total since June 1, 2001	51,344,731						

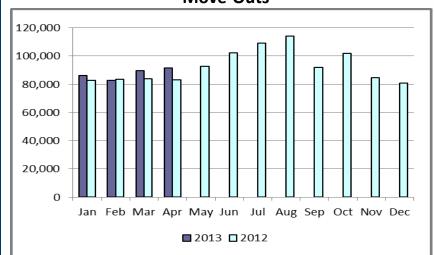


### Retail Transaction Volumes – Summary – April 2013

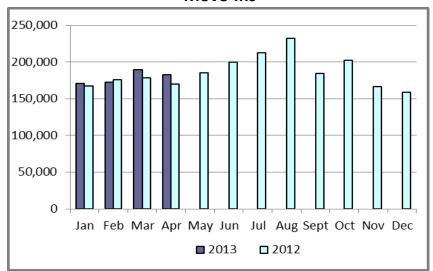




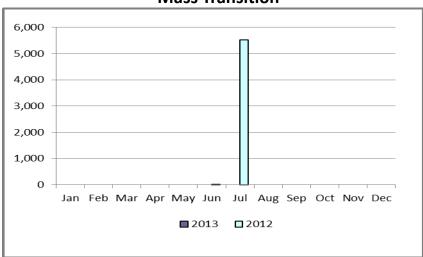
#### **Move-Outs**



#### **Move-Ins**

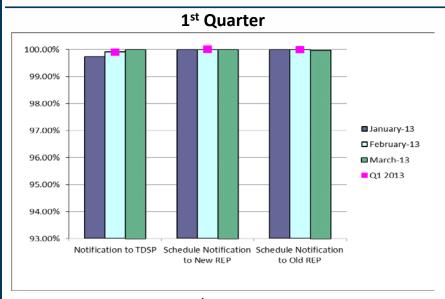


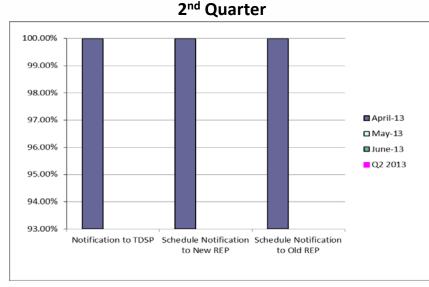
#### **Mass Transition**

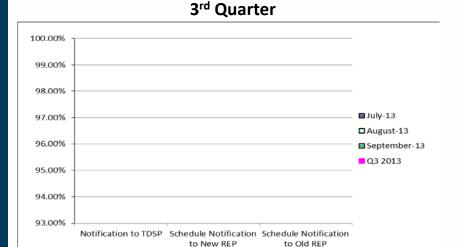


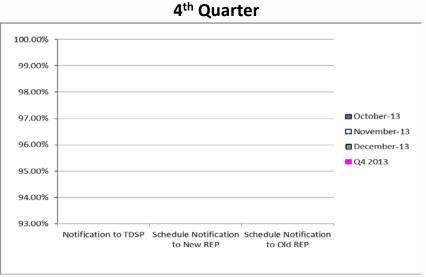


### Retail Performance Measures – Switch – April 2013



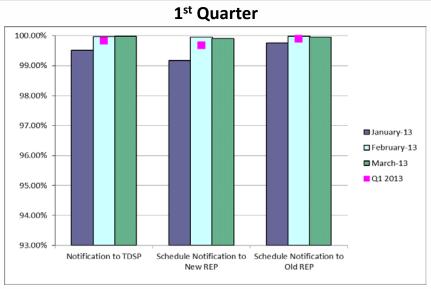


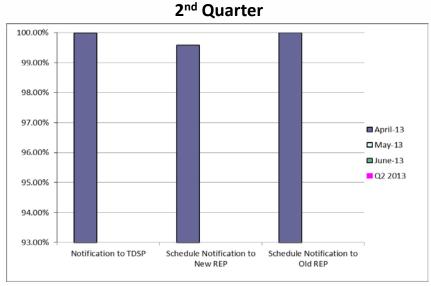




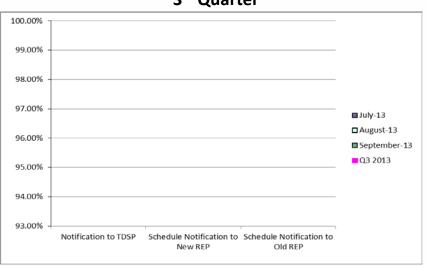


#### Retail Performance Measures (Same Day Move-In) - April 2013

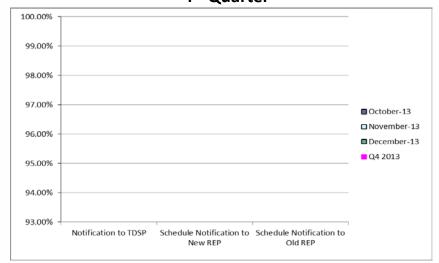






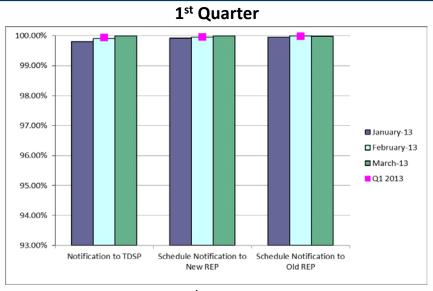


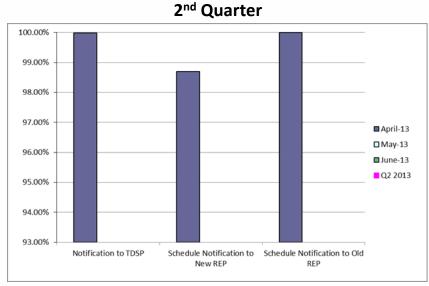




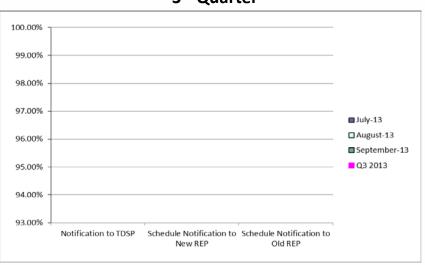


#### Retail Performance Measures (Standard Move-In) - April 2013

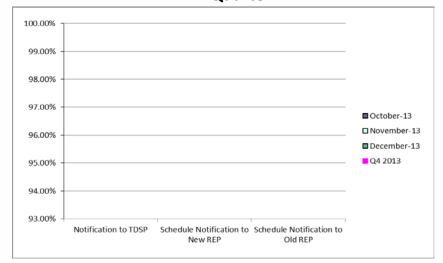














# **Projects Report**



Project Number	Project Name	Phase	Baseline Phase Start	Baseline Phase Finish or Go-Live	Scheduled Phase Finish or Go-Live		chedule Status	m of 2013 Budgets	2013 Fored Spend		2013 Approved Spend	2014 Forecast Spend	2013 Variance	Sum of Total Budgets	Total Forecast Spend	Tota Varia	
PROJECTS	IN FLIGHT (Count = 56) Sorted by Phase / Pro	ject Num						\$ 16,908,338	\$ 16,157	978	\$ 11,705,300	\$ 7,345,094	10%	\$ 35,210,809	\$ 33,936,651		3%
097-01	ABB MMS OS Technology Refresh	Initiation											0%				0%
098-01	EPG Synchrophasor Upgrade	Initiation											0%				0%
099-01	Moody's Analytics	Initiation											-1%				-1%
101-01	Emergency Notification System Hardware Refresh	Initiation											4%				3%
TBD	NAS Data Storage / File Synchronization - EMMS System and Applications	Initiation											0%				0%
NPRR207	Unit Deselection	Initiation											0%				0%
NPRR272	Definition and Participation of Quick Start Generation Resources	Initiation											100%			1	100%
NPRR385	Negative Price Floor	Initiation											35%				35%
052-01	EMS Upgrade	Planning	7/25/2012	3/27/2013	3/27/2013		0%						8%				0%
059-01	Security Information and Event Management (SIEM) Upgrade	Planning	11/21/2012	5/8/2013	5/8/2013		0%						0%				3%
065-01	NMMS Upgrade	Planning	5/1/2013	7/31/2013	7/31/2013		0%						2%				1%
066-01	Planning Site Transition to MIS	Planning	1/9/2013	3/25/2013	6/19/2013	3	-114%						2%				3%
070-01	Linux Configuration Management Tool	Planning	1/24/2013	6/26/2013	6/26/2013		0%						0%				0%
071-01	Windows Server Systems Management	Planning	1/23/2013	6/26/2013	6/27/2013		0%						0%				0%
077-01	Contract Lifecycle Management	Planning	2/13/2013	6/12/2013	6/12/2013		0%						-1%				0%
081-01	Additional Resource Data for Outage Scheduler	Planning	3/4/2013	5/22/2013	5/22/2013		0%						25%			2	24%
083-01	Centralized Application Log Management	Planning	3/6/2013	5/15/2013	5/16/2013		-1%						0%				0%
089-01	Information Technology Change Management	Planning	4/10/2013	5/29/2013	5/28/2013		2%						8%				8%
095-01	Mobile Application Enhancement	Planning	4/3/2013	5/22/2013	5/22/2013		0%						5%				5%
096-01	Backup Software Strategy and Proposed License Cost Reduction	Planning	4/10/2013	5/22/2013	5/22/2013		0%						-2%				-2%
NPRR153	Generation Resource Fixed Quantity Block Offer	Planning	4/10/2013	5/24/2013	5/24/2013		0%						18%			•	18%
NPRR327	State Estimator Data Redaction Methodology	On Hold	12/5/2012	2/12/2013		4							4%				9%
NPRR425	Creation of a WGR Group for GREDP and Base Point Deviation Evaluation	Planning	3/13/2013	5/15/2013	5/24/2013	3	-14%						24%			2	23%
NPRR457	Daily Update of New ESI IDs and AMS Meter and Switch Hold Indicators Changes	Planning	4/10/2013	5/29/2013	5/29/2013		0%						21%			2	21%
NPRR476	Market Submitted Energy Offer Curves Disclosures	Planning	4/10/2013	6/12/2013	6/12/2013		0%						9%				8%
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments	Planning	4/10/2013	5/29/2013	5/29/2013		0%						39%				0%
SCR773	Addition of Regulation Feedback to Generation to be Dispatched Calculation	Planning	5/1/2013	5/7/2013	5/7/2013		0%						0%				0%
016-01	ADP-IDM Interface	On Hold	5/23/2012			4										·	14%



Project Number	Project Name	Phase	Baseline Phase Start	Baseline Phase Finish or Go-Live	Scheduled Phase Finish or Go-Live	Schedu Status	- 1	Sum of 2013 Budgets	2013 Forecast Spend	2013 Approved Spend	2014 Forecast Spend	2013 Variance	Sum of Total Budgets	Total Forecast Spend	Total Variance
PROJECTS	IN FLIGHT (Count = 56) Sorted by Phase / Pro	ject Num						\$ 16,908,338	\$ 16,157,978	\$ 11,705,300	\$ 7,345,094	10%	\$ 35,210,809	\$ 33,936,651	3%
010-02	MarkeTrak Upgrade	Execution	12/12/2012	6/8/2013	6/11/2013	-1	%					8%			7%
017-01	Oracle 11g Upgrade	Execution	10/10/2012	7/26/2013	7/26/2013	0'	%					18%			20%
038-01	Macomber Map NERC SA/Compliance Enhancements	Execution	9/19/2012	12/7/2012	6/13/2013	3 -23	7%					-1%			-2%
042-01	CRR Upgrade to v12.3	Execution	5/16/2012	4/1/2013	4/1/2013	0'	%					63%			34%
047-01	CMSDK/MIR Replacement	Execution	4/24/2013	12/8/2013	11/26/2013	5	%					1%			1%
048-01	TSAT Wind Model	Execution	8/16/2012	4/25/2013	4/25/2013		%					3 -6%			11%
055-01	Siebel Upgrade 8.x	Execution	3/13/2013	7/28/2013	7/29/2013		%					0%			-1%
057-01	EPS Metering DB Redesign	Execution	4/17/2013	9/6/2013	5/6/2013	86						5%			4%
067-01	Physical Security Upgrade	Execution	2/13/2013	7/26/2013	7/26/2013		%					10%			10%
072-01	OSI PI Upgrades - EMS Production	Execution	4/17/2013	10/16/2013	10/11/2013		%					31%			31%
074-01	Mobile Device Management - POC	Execution	3/13/2013	5/14/2013	5/14/2013		%					-4%			-1%
075-01	Operator Data Display	Execution	4/10/2013	9/29/2013	9/29/2013		%					8%			10%
088-0x	Capital Efficiencies and Enhancements - 2013	Execution	8/16/2012	12/31/2013	12/31/2013		%					0%			0%
10052_01	Settlement System Upgrade	Execution	1/25/2012	12/23/2014	10/10/2014	6	%					0%			-4%
90006_02	Information Lifecycle Mgmt – Mkt Systems, Archive, Reporting	Execution	4/22/2011	6/26/2014	5/13/2013	35	%					11%			-1%
2013 PC	Program Control - 2013	Execution	8/16/2012	12/31/2013	12/31/2013	0'	%					0%			0%
99913	Minor Cap - 2013	Execution	1/1/2013	12/31/2013	12/31/2013	0'	%					6 -24%			6 -24%
NPRR393	SCED Constraint Management Transparency	Execution	3/13/2013	6/13/2013	8/1/2013	3 -53	3%					25%			25%
NPRR416	Removal of the RUC Clawback Charge for Resources Other than RMR Units	Execution	4/10/2013	9/27/2013	9/26/2013	0'	%					37%			37%
NPRR456	Clarification of Definition of Electrically Similar Settlement Points and Heuristic Pricing Posting	Execution	2/14/2013	4/25/2013	4/25/2013	0'	%					34%			34%
NPRR461	Energy Storage Settlements Consistent with PUCT Project 39917	Execution	3/13/2013	7/30/2013	7/30/2013	0'	%					7%			8%
NPRR463	CRR Auction Structure Enhancements	Execution	12/20/2012	4/5/2013	4/1/2013	3	%					40%			32%
NPRR479	Daily Net Outage MW	Execution	4/10/2013	8/1/2013	8/1/2013	0'	%					0%			0%
NPRR481	Report of Hourly Actual System Load by Weather Zone	Execution	4/10/2013	6/13/2013	6/13/2013	0'	%					0%			0%
NPRR520	Real-Time Mitigation Rules and Creation of a Real-Time Constraint Competitiveness Test	Execution	5/1/2013	8/1/2013	8/1/2013	0'	%					0%			0%
NOGRR093	Synchronization with NPRR365	Execution	3/27/2013	6/14/2013	6/14/2013	0'	%					-2%			-2%
SCR760	Recommended Changes Needed for Information Model Mgr and Topology Processor for Planning Models	Execution	8/25/2011	7/12/2013	7/12/2013	0	%					34%			21%
SCR770	Revision to Outage Scheduling Entry for Resource Maintenance Outage Level Designation	Execution	3/14/2013	9/27/2013	9/27/2013	0	%					19%			20%



Project Number	Project Name	Phase	Forecast Start Date			Sum of 2013 Budgets	2013 Forecast Spend	2013 Approved Spend	2014 Forecast Spend	2013 Variance	Sum of Total Budgets	Total Forecast Spend	Total Variance
PROJECTS	S NOT YET STARTED (Count = 31)	Sorted by Ran	k			\$ 3,637,165	\$ 2,963,117	\$ -	\$ 4,983,468		\$ 8,620,633	\$ 7,946,585	
TBD	Disaster Recovery: S&B, RTL, MDT	Not Started	May 2013										
TBD	MP Online Data Entry - Ph 1	Not Started	May 2013										
NPRR407	Credit Monitoring Posting Requirements - CRR Portion	Not Started	May 2013										
NOGRR101	Market Notice for DC-TIE Outage Information	Not Started	May 2013										
SCR756	MarkeTrak Enhancements - Remaining SCR756 Items	Not Started	Jun 2013										
TBD	Alstom Load Forecasting Upgrade	Not Started	Jun 2013										
TBD	IBM AIX Operating System Upgrades	Not Started	Jun 2013										
TBD	Mobile Device Management	Not Started	Jun 2013										
TBD	Quality Center Upgrade	Not Started	Jun 2013										
NPRR210	Wind Forecasting Change to P50, Sync with PRR841	Not Started	Jul 2013										
NPRR492	Addition of System Lambda Information	Not Started	Jul 2013										
NOGRR105	Generation Resource Frequency Response Test Procedure	Not Started	Jul 2013										
TBD	Dev Hardware Refresh and Virtualization Expansion	Not Started	Jul 2013										
TBD	Symposium Call Center Replacement	Not Started	Jul 2013										
NPRR240	Proxy Energy Offer Curve	Not Started	Aug 2013										
TBD	Lawson Security	Not Started	Aug 2013										
TBD	Taylor Control Room Upgrade	Not Started	Aug 2013										
NOGRR084	Daily Grid Operations Summary Report	Not Started	Sep 2013										
SCR771	ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources	Not Started	Sep 2013										
TBD	Enterprise Vault Upgrade	Not Started	Sep 2013										
TBD	Intrusion Prevention System	Not Started	Sep 2013										
TBD	SQL Server 2012 Upgrade / Cluster Consolidation	Not Started	Sep 2013										
NPRR256	Sync with PRR787, Add Non-Compliance Language to QSE Performance Standards	Not Started	Oct 2013										
TBD	Email Redundancy	Not Started	Oct 2013										
TBD	Net Backup Architecture Redesign	Not Started	Oct 2013				•						
TBD	Voice Over IP (VOIP) Replacement for PBX	Not Started	Oct 2013										
SCR769	CRRAH Digital Certificate New Role for Read Only Access	Not Started	Nov 2013										
NPRR493	Half-Hour RUC Clawback	Not Started	TBD										
NPRR495	Changes to Ancillary Services Capacity Monitor	Not Started	TBD										<u> </u>
TBD	ERCOT Native Load Calculation	Not Started	TBD										·····
TBD	OTS Enhancements	Not Started	TBD										
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Project Number	Project Name	Phase	Baseline Execution Phase Start	Baseline Go- Live Target	Actual Go-Live Date	Schedul Status	е	Sum of 2013 Budgets	2013 Forecast Spend	2013 Approved Spend	2014 Forecast Spend	2013 Variance	Sum of Total Budgets	Total Forecast Spend	Total Variance
PROJECT	S COMPLETED IN 2013 (Count = 17) Sorted I	by Project Nu						\$ 173,582	\$ 167,671	\$ 173,582	\$ -	3%	\$ 4,073,151	\$ 3,841,052	5%
006-01	SAGE (System Administrator Gateway Environment)	Closing	5/31/2012	12/19/2012	1/3/2013	1 -79	%					49%			5%
NPRR260	Providing Access to MIS Secure Area to MIS	Closing	10/3/2012	2/15/2013	2/15/2013	09	6					3 -55%			20%
NPRR377	Registered Users Alternate Inputs to Base Point Deviation Charge	Closina	9/26/2012	2/15/2013	2/15/2013	09	6					74%			28%
NPRR313	Updating the Term Resource Plan to Current Operating Plan / Availability Plan	Complete	8/22/2012	2/15/2013	2/15/2013	09						42%			30%
NPRR322	Real-Time PTP Option Modeling	Complete	8/1/2012	2/15/2013	2/15/2013	09	6				-	27%			1%
NPRR347 NPRR400	Implementation of NPRR347 and NPRR400	Complete	3/29/2012	2/15/2013	2/15/2013	09	6					55%			3 -13%
NPRR397	Balance of the Day Ancillary Service Market	Complete	9/19/2012	2/15/2013	2/15/2013	0%	6					41%			35%
NPRR407	Credit Monitoring Posting Requirements - MMS/CDR Portion	Complete	9/19/2012	2/15/2013	2/15/2013	09						43%			20%
NPRR469	Modifications to CCTs	Complete	9/19/2012	2/15/2013	2/15/2013	0%	6					50%			21%
SCR768	Automatic Non-Spin Redeployment and Deployment Based on Resource Availability	Complete	9/19/2012	2/15/2013	2/15/2013	09	6					65%			5%
009-01	Compliance Software Tool	Complete	12/1/2011	11/30/2012	12/19/2012	1 -59	%					2 -100%			20%
019-01	ERCOT Website Enhancements - 2012	Complete	3/8/2012	12/26/2012	4/24/2013	1 -40	%								1 -40%
020-01	CIM Upgrade for NMMS	Complete	6/14/2012	2/15/2013	2/15/2013	09	6					12%			22%
021-01	Incremental Update Capability - Phase 1	Complete	3/23/2012	2/6/2013	2/13/2013	-29	%					0%			63%
030-01	ITRON Load Forecast	Complete	6/27/2012	2/15/2013	2/15/2013	09	6					5 -34%			-1%
043-01	Met Center Lease Reconfiguration	Complete	9/12/2012	12/19/2012	12/19/2012	09	6					87%			10%
046-01	MAI Conversion to IGRID	Complete	8/2/2012	2/15/2013	2/15/2013	09	6					3 -357%			0%
SUMMARY															
								Sum of 2013 Budgets	2013 Forecast Spend	2013 Approved Spend	2014 Forecast Spend		Sum of Total Budgets	Total Forecast Spend	
E0/	KPI Budget Measure - Execution/Completed	d Duningto			Projects In Fli	ght		\$ 16,908,338	\$ 16,157,978	\$ 11,705,300	\$ 7,345,094		\$ 35,210,809	\$ 33,936,651	
5%	KPT Budget Measure - Execution/Completed	a Projects			Projects Not Y	et Started		\$ 3,637,165	TBD	\$ -	\$ 4,983,468		\$ 8,620,633	TBD	
6%	KPI Schedule Measure - Execution/Complet	tad Projects			Projects Comp	oleted		\$ 173,582		\$ 173,582				\$ 3,841,052	
076	KFT Schedule Measure - Execution/Complet	led FTOJECIS			TOTAL			\$ 20,719,084	\$ 16,325,649	\$ 11,878,882	\$ 12,328,562		\$ 47,904,593	\$ 37,777,703	
Project Fun					Project Fund	ing		\$ 16,000,000			\$ 20,000,000				
	ed \$1 million of vendor services from the "Hardware and So and Licensing" budget which increased the PPL Budget fr														
Calculation	Definitions							hase took longer th			al funding and/or tim	ne required			
Schedule: Count of Execution and Completed Projects with Variance >= 10%				60						additional funding a	nd/or time rea	uired			
	Schedule: Count of Execution and Completed Projects with Variance >= 10%  / Count of Execution and Completed Projects				Footnotes			emporarily placed o		occu, resulting III	additional funding a	mazor ume req	шточ		
	South of Excoation and Completed Flojects				<u>و</u>			rendor payment shifted cost from 2012 to 2013							
Budget: (T	otal Budget of Execution and Completed Projects				ot			emand exceeds bu							
	Total Forecast Spend of Execution and Completed Projects	s)			L L	7			-9-1						
	otal Budget of Execution and Completed Projects	-,			1	8									
, ' '	Star Dauget of Excountry and Completed 1 10/6015					9									

