

# ERCOT Monthly Operational Overview (March 2015)

ERCOT Public April 15, 2015

# **Grid Planning & Operations**

#### **Operations**

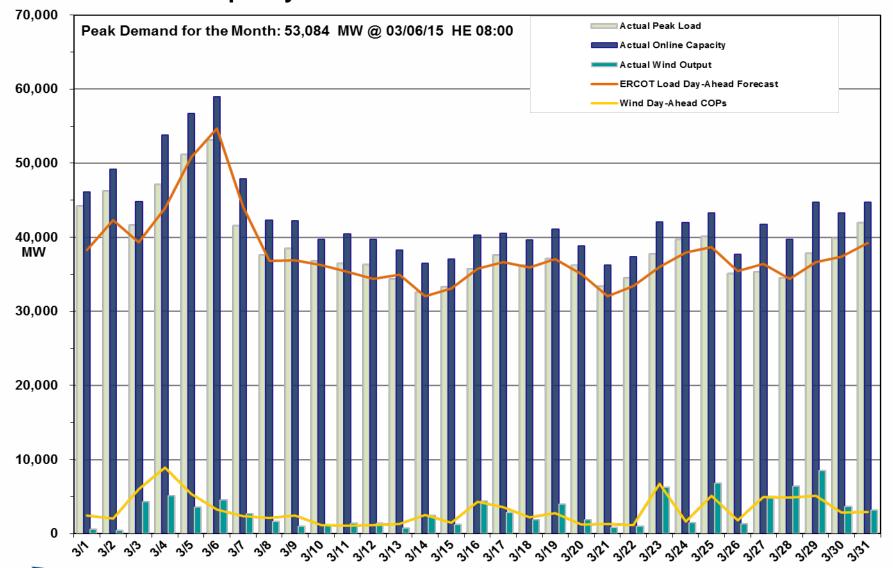
- The peak demand of 53,084 MW on March 6th was less than the mid-term forecast peak of 54,721 MW of the same operating period. In addition, it was less than the March 2014 actual peak demand of 54,549 MW. The instantaneous peak load on March 6th was 54,161 MW.
- Day-ahead load forecast error for March was 3.81%
- ERCOT issued six notifications
  - One advisory due to cold weather (3/3)
  - One watch due to cold weather (3/4)
  - One advisory for a GMD Alert of K-7, later upgraded to K-8 (3/17)
  - One watch due to failure of SCED (3/30)
  - One watch due to failure of HRUC for HE 0700 (3/30)
  - One advisory due to postponing of the DAM Solution (3/30)

#### **Planning Activities**

- 251 active generation interconnection requests totaling over 63,400 MW, including 25,300 MW of wind generation as of March 31, 2015. Six additional requests and 341 additional MW from February 28, 2015.
- 12,569 MW wind capacity in commercial operations on March 31, 2015.



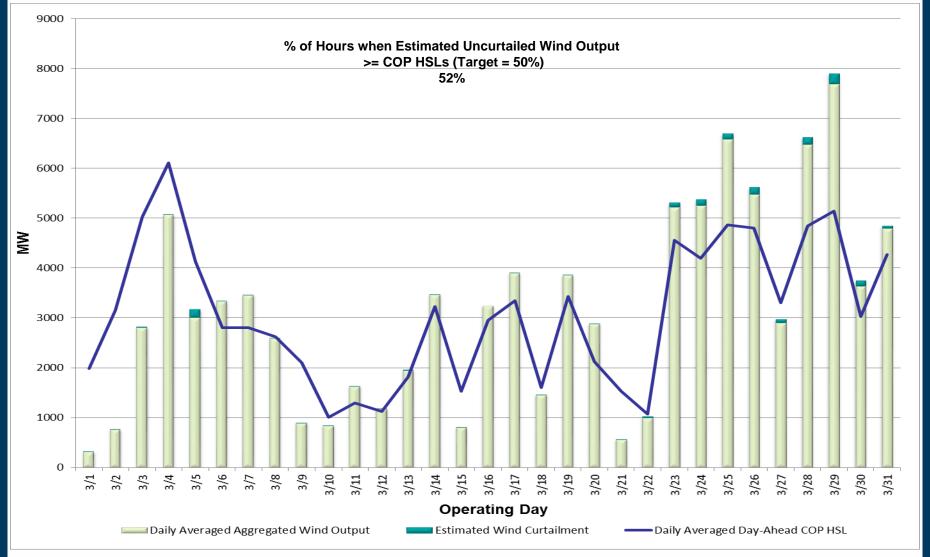
Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak – March 2015





#### Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for

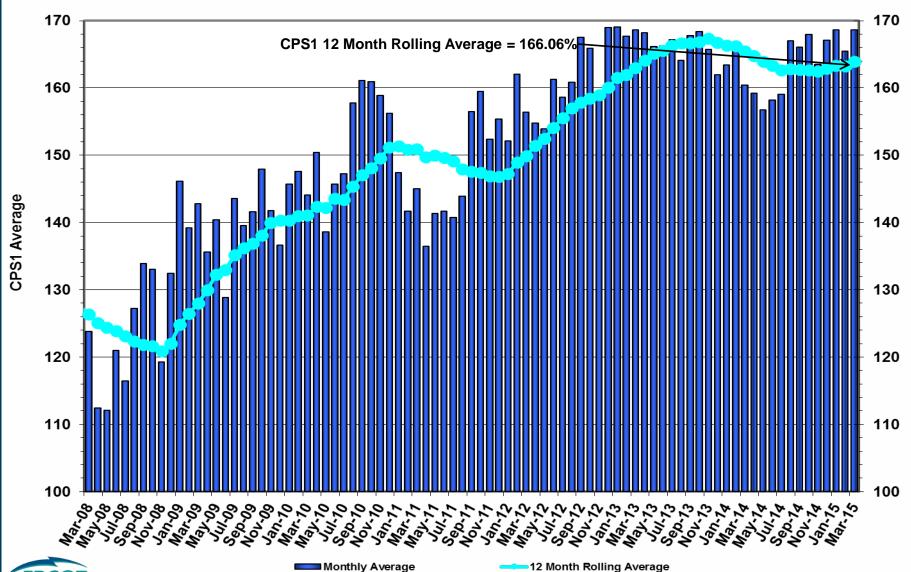
All Hours - March 2015



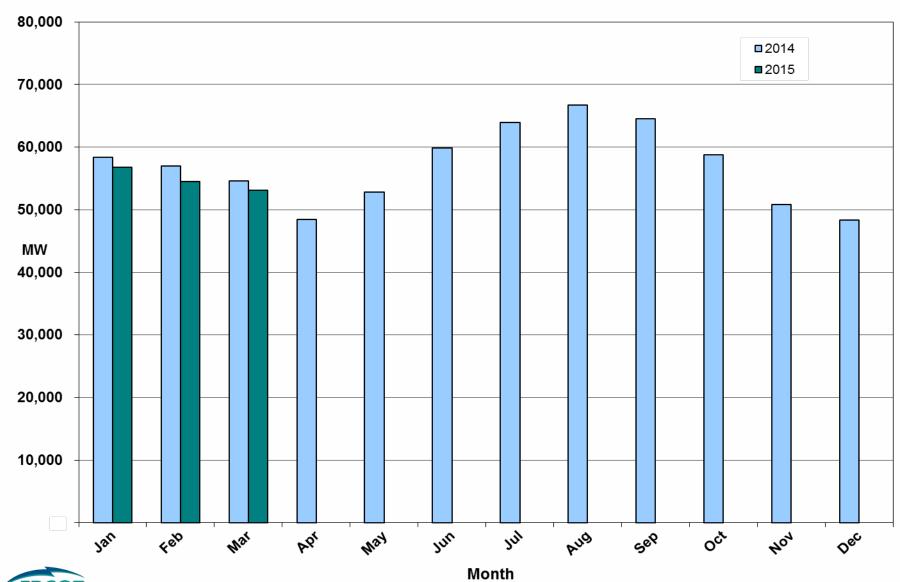


Note: QSEs must use the AWST 50% probability of exceedance forecast as the HSL in their COPs

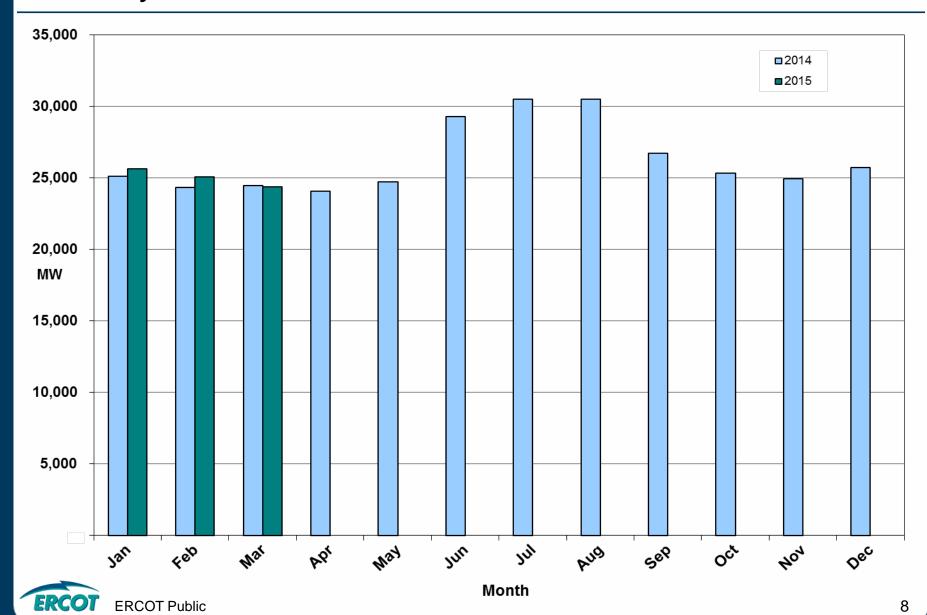
#### **ERCOT's CPS1 Monthly Performance – March 2015**



#### **Monthly Peak Actual Demand – March 2015**



#### **Monthly Minimum Actual Demand – March 2015**



#### **Day-Ahead Load Forecast Performance – March 2015**

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

	2012 MAPE	2013 MAPE	2014 MAPE	2015 MAPE	March MA	
Average Annual MAPE	3.02	2.86	2.83	3.54	3.8	31
Lowest Monthly MAPE	2.51	2.07	2.15	3.38	Lowest Daily MAPE	<b>0.87</b> Mar – 18
Highest Monthly MAPE	3.49	3.50	3.70	3.81	Highest Daily MAPE	<b>12.73</b> Mar - 1



# Reliability Unit Commitment (RUC) Capacity by Weather Zone March 2015

There were no HRUC or DRUC commitments for this month.

#### **Generic Transmission Constraints (GTCs) – March 2015**

GTCs	Feb 14 Days GTCs	Dec 14 Days GTCs	Feb 15 Days GTCs	Mar 15 Days GTCs	Last 12 Months Total Days (Apr14 - Mar15)
North – Houston	0	0	0	0	0
West - North	0	0	0	0	1
Valley Import	2	0	0	0	4
SOP110	0	0	0	0	10
AJO_ZO	-	-	-	9	9

**GTC:** 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 GTC limit, it does not imply an exceedance of the GTC occurred.

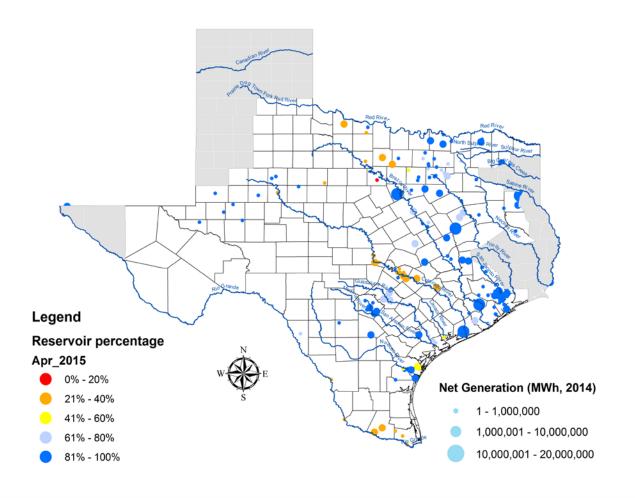


#### **Advisories and Watches - March 2015**

- One advisory due to cold weather
  - Issued on 3/3
- One watch due to cold weather
  - Issued on 3/4
- One advisory due to a GMD Alert of K-7, later upgraded to K-8
  - Issued on 3/17
- One watch due to failure of SCED
  - Issued on 3/30
- One watch due to failure of the HRUC for hour ending 0700
  - Issued on 3/30
- One advisory due to the postponing of the DAM Solution
  - Issued on 3/30



#### Lake Levels Update – April 1, 2015

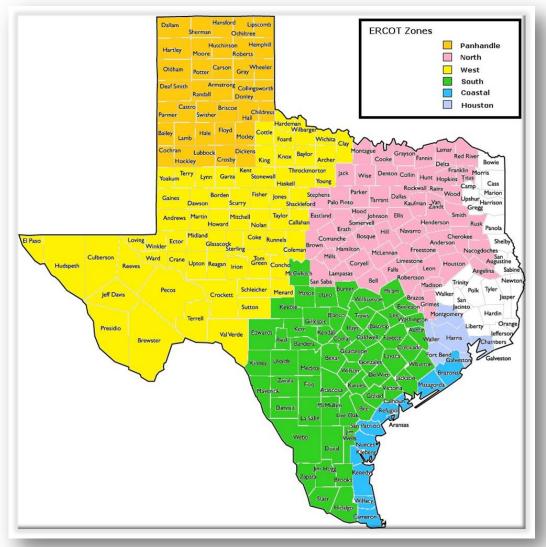




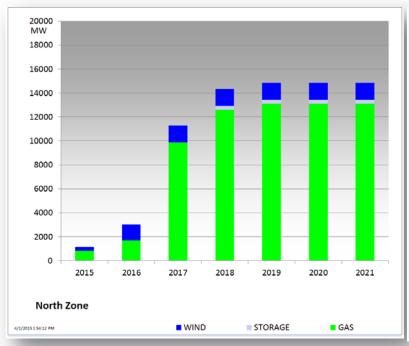
#### Planning Summary – March 2015

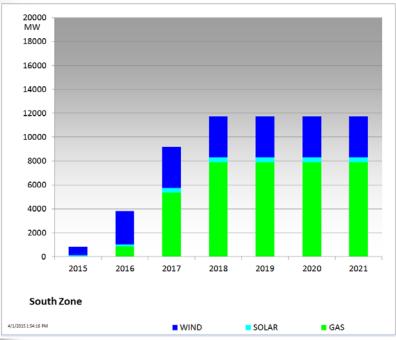
- ERCOT is currently tracking 251 active generation interconnection requests totaling over 63,400 MW. This includes over 25,300 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$252 Million.
- Transmission Projects endorsed in 2015 total \$103.8 Million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$6.15 Billion.
- Transmission Projects energized in 2015 total about \$32.8 Million.

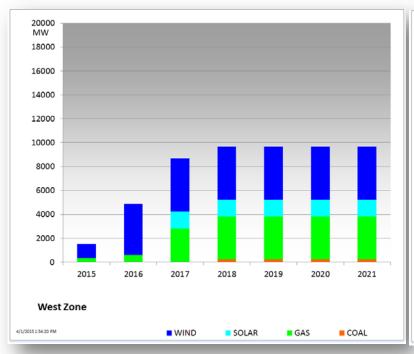


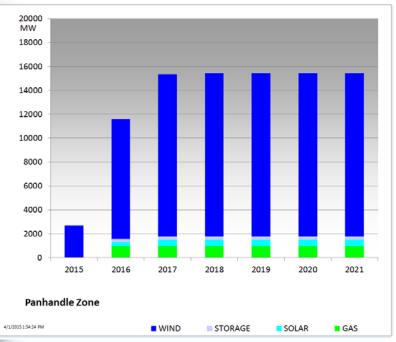


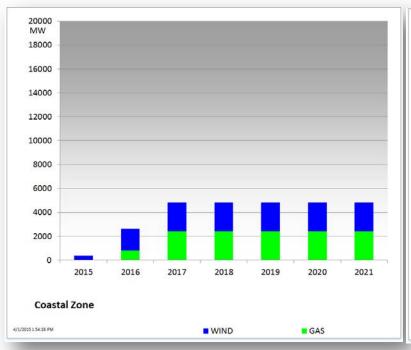


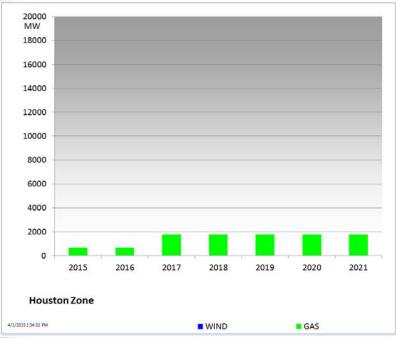






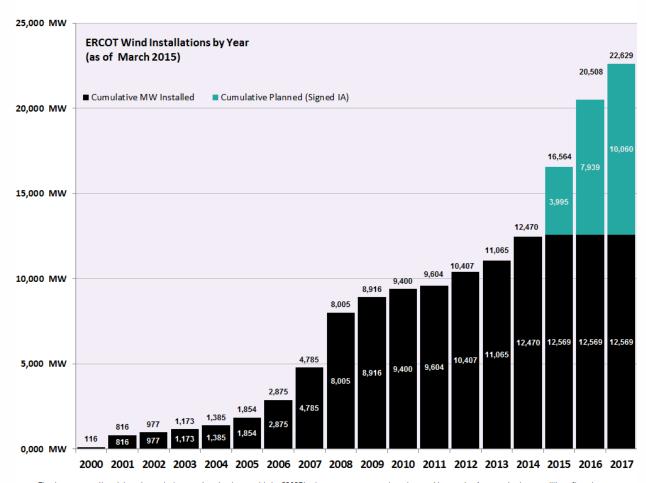








#### Wind Generation – March 2015

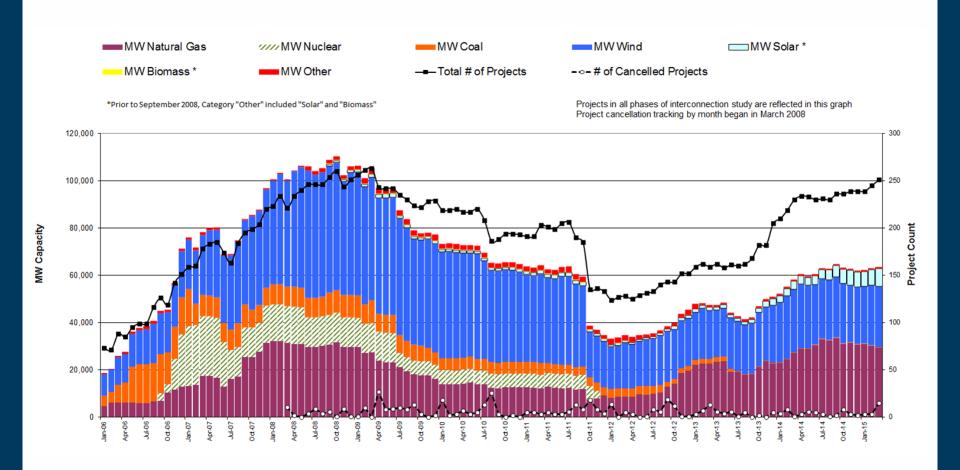


The data presented here is based upon the latest registration data provided to ERCOT by the resource owners and can change without notice. Any capacity changes will be reflected in current and subsequent years' totals. Scheduling delays will also be reflected in the planned projects as that information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

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

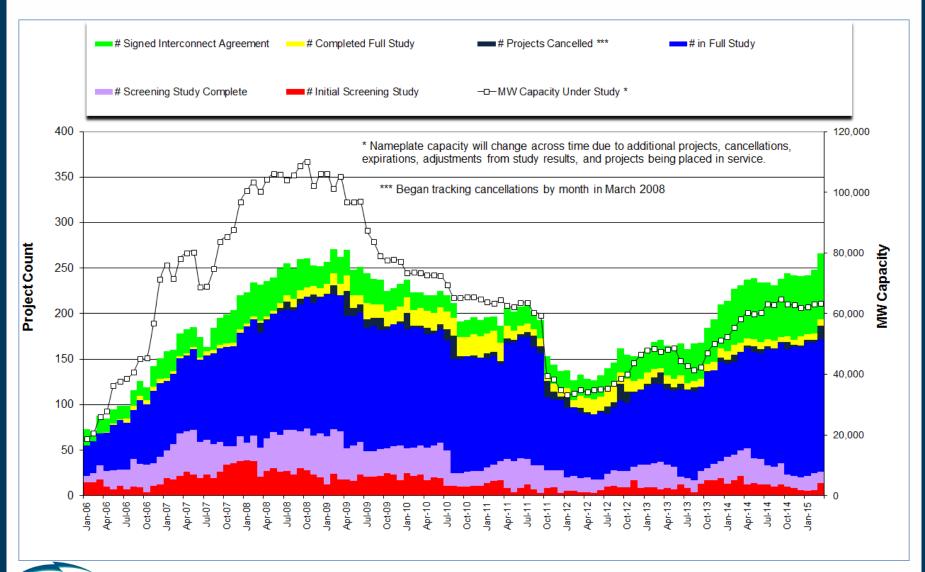


### **Generation Interconnection Activity by Fuel – March 2015**



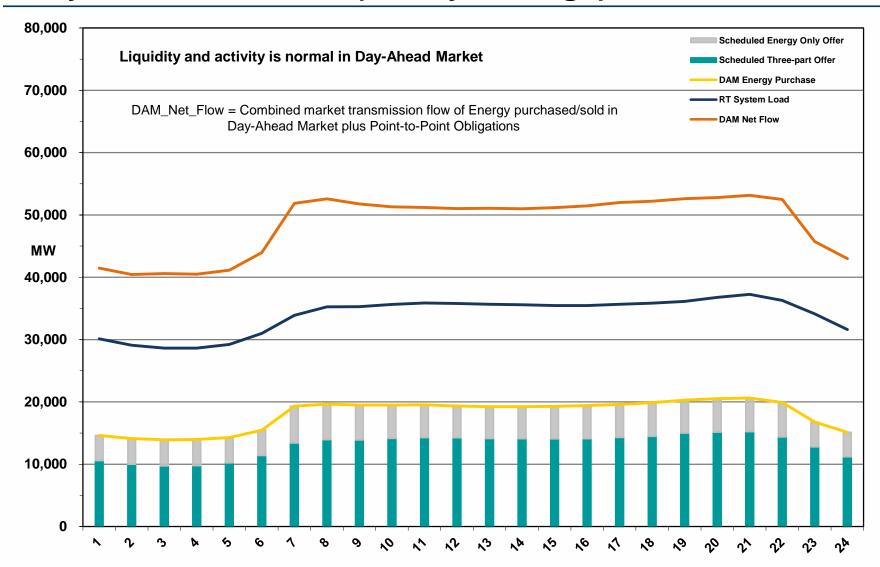


#### **Generation Interconnection Activity by Project Phase – March 2015**



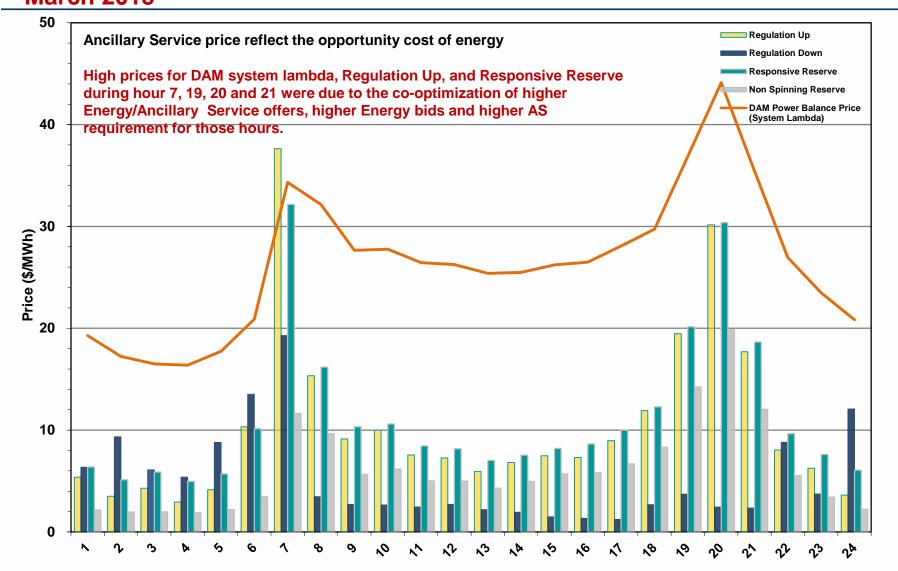
# **Market Operations**

### Day-Ahead Schedule (Hourly Average) – March 2015



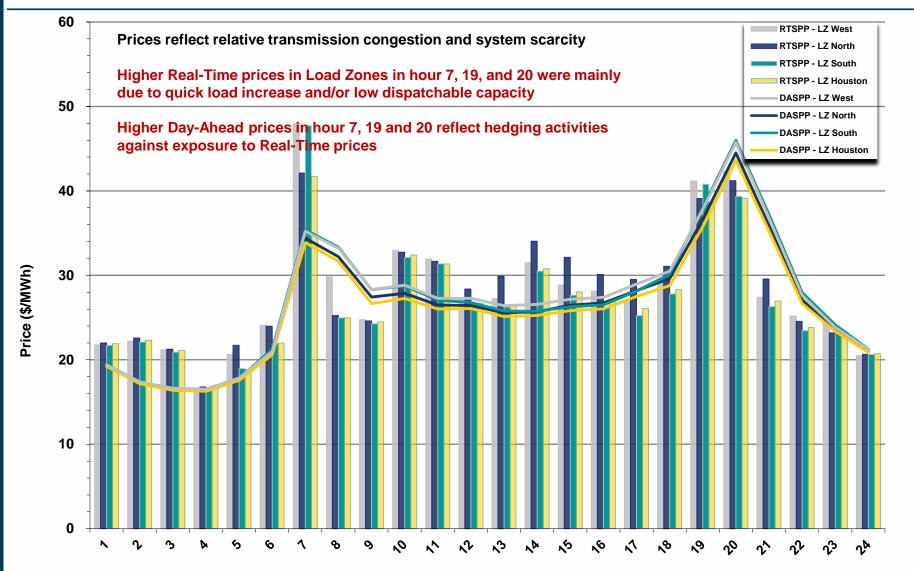


# Day-Ahead Electricity And Ancillary Service Hourly Average Prices – March 2015



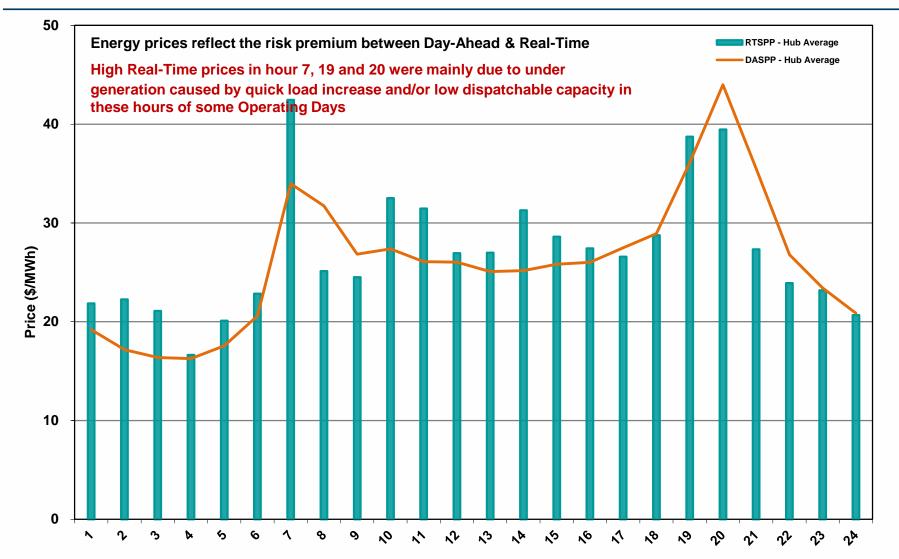


#### Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – March 2015



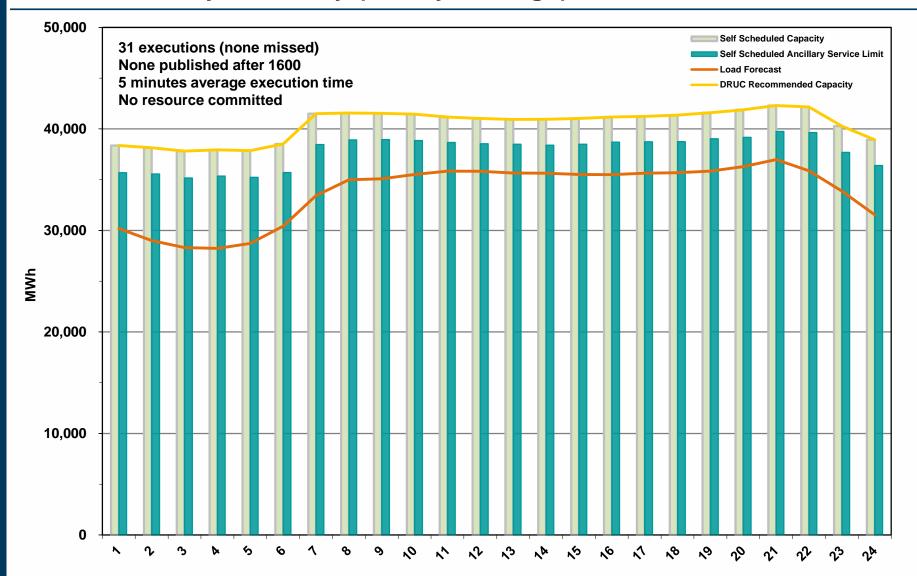


#### Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – March 2015



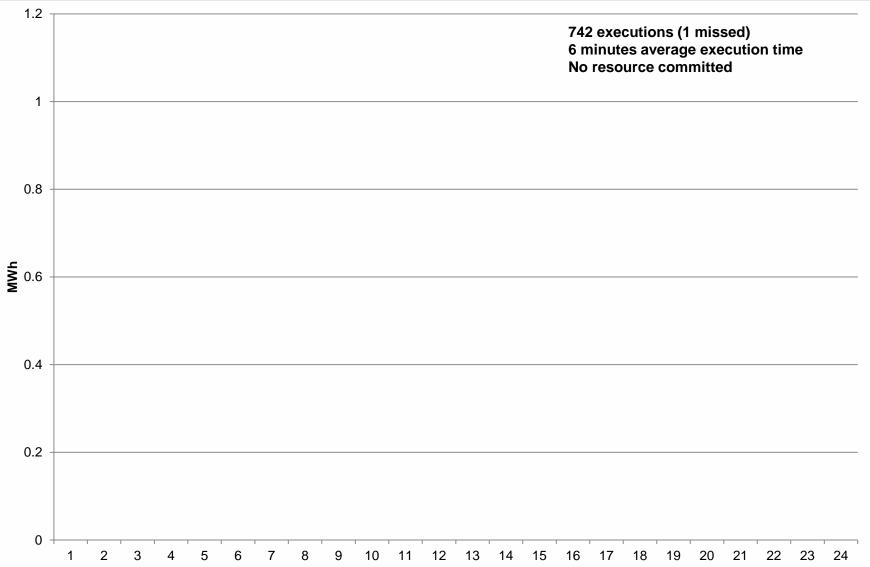


#### **DRUC Monthly Summary (Hourly Average) – March 2015**





# **HRUC Monthly Summary – March 2015**



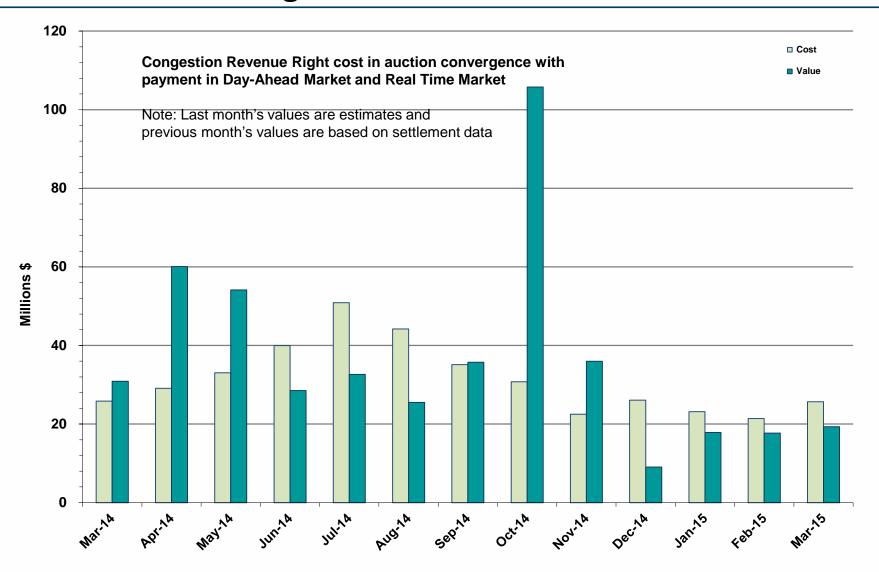


**ERCOT Public** 

### **Non-Spinning Reserve Service Deployment – March 2015**

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

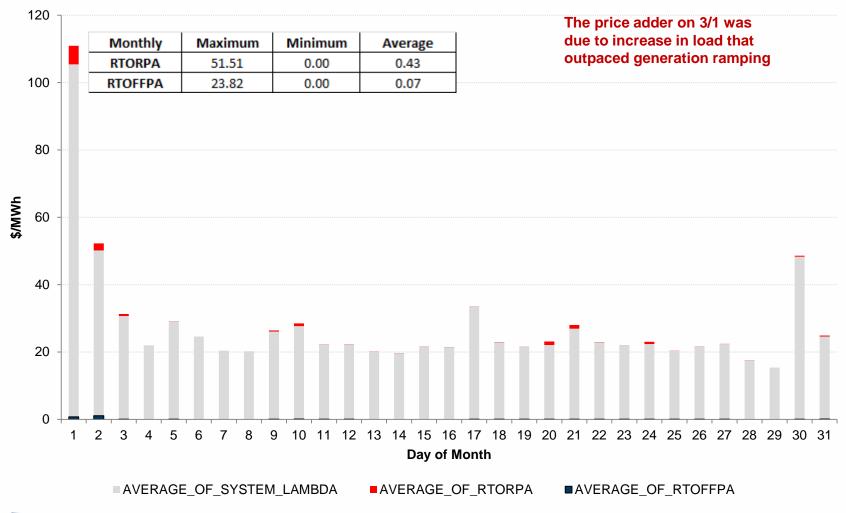
### **CRR Price Convergence – March 2015**





### **ORDC Price Adder (Daily Average) – March 2015**

Average Daily Real-Time System Lambda, Real-Time On-Line Reserve Price Adder (RTORPA), and Real-Time Offline Reserve Price Adder (RTOFFPA) - March 2015





### **ERS Procurement for February 2015 – May 2015**

	BH1	BH2	внз	NBH
ERS-10 MW Procured	598.139	576.648	570.842	539.822
ERS-30 MW Procured	349.356	347.416	310.620	275.695
Total MW Procured	947.495	924.064	881.462	815.517
Clearing Price	\$15.61	\$2.63	\$11.10	\$3.00

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

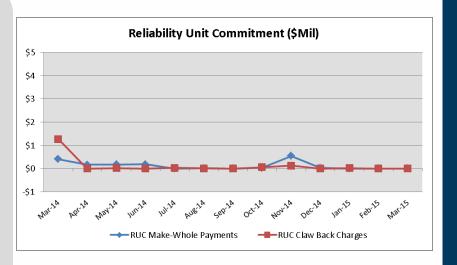
HE 1400 through 1600, Monday thru Friday except ERCOT Holidays

HE 1700 through 2000, Monday thru Friday except ERCOT Holidays

All other hours

### **Reliability Services – March 2015**

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



RUC Make-Whole Payments remained at \$0.00M in March. RUC Clawback Charges were \$0.00M.

There was \$0.00M allocated directly to load in March 2015, compared to:

- \$0.00M in February 2015
- \$1.27M credit in March 2014



### **Capacity Services – March 2015**

Capacity Services	\$ in Millions
Regulation Up Service	\$4.75
Regulation Down Service	\$1.82
Responsive Reserve Service	\$20.19
Non-Spinning Reserve Service	\$6.84
Black Start Service	\$0.63
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges	\$34.23

Capacity Services costs increased from last month and decreased from March 2014.

March 2015 cost was \$34.23M, compared to:

- A charge of \$19.82M in February 2015
- A charge of \$67.33M in March 2014



### **Energy Settlement – March 2015**

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$376.41
Point to Point Obligation Purchases	\$17.60
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$371.87)
Day-Ahead Congestion Rent	\$22.14
Day-Ahead Market Make-Whole Payments	(\$0.19)

Both Day-Ahead Market and Real-Time Market energy settlement activity increased from last month and decreased from March 2014.

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$390.21)
Energy Imbalance at a Load Zone	\$596.19
Energy Imbalance at a Hub	(\$184.88)
Real Time Congestion from Self Schedules	(\$0.18)
Block Load Transfers and DC Ties	(\$6.18)
Impact to Revenue Neutrality	\$14.74
Emergency Energy Payments	(\$0.08)
Base Point Deviation Charges	\$0.21
Real-Time Metered Generation (MWh in millions)	25.16

## **Congestion Revenue Rights (CRR) – March 2015**

	\$ in Millions
Annual Auction	(\$19.64)
Monthly Auction	(\$5.73)
Total Auction Revenue	(\$25.37)
Day-Ahead CRR Settlement	(\$19.34)
Day-Ahead CRR Short-Charges	\$0.32
Day-Ahead CRR Short-Charges Refunded	(\$0.32)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
Total CRR Funding	(\$19.34)
Day-Ahead Point to Point Obligations Settlement	\$17.60
Real-Time Point to Point Obligation Settlement	(\$16.82)
Net Point to Point Obligation Settlement	\$0.78

Congestion Revenue Rights settlement payments were fully funded and excess funds were deposited into the CRR Balancing Account Fund.

Point to Point Obligations settled with a net charge of \$0.78M compared to a net payment of \$2.10M last month.



# **CRR Balancing Account Fund – March 2015**

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$3.86
CRR Balancing Account Credit Total	\$3.12
CRR PTP Option Award Charges	\$0.06
Day-Ahead CRR Short-Charges Refunded	(\$0.32)
Total Fund Amount	\$6.72

ERCOT implemented the rolling CRR Balancing Account Fund beginning with Operating Month December 2014. The month of March 2015 closed with \$2,853,013 in excess Day-Ahead congestion rent which was deposited into the Fund.

As of March 2015, the amount available in the CRR Balancing Account Fund is \$6,717,548.



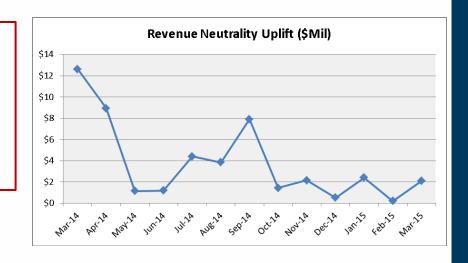
# **Revenue Neutrality – March 2015**

Revenue Neutrality Settlement	\$ in Millions
Real-Time Point to Point Obligation Settlement	(\$16.82)
Real-Time Point to Point Options and Options with Refund Settlement	\$0.00
Real-Time Energy Imbalance Settlement	\$21.10
Real-Time Congestion from Self-Schedules Settlement	(\$0.18)
DC Tie & Block Load Transfer Settlement	(\$6.18)
Charge to Load	\$2.08

Revenue Neutrality charges to load increased compared to last month and decreased compared to March 2014.

March 2015 was a charge of \$2.08M, compared to:

- \$0.21M charge in February 2015
- \$12.61M charge in March 2014





### Real Time Ancillary Service Imbalance (ORDC) – March 2015

Real Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance Payment Amount	(\$297.99)
Load Allocated AS Imbalance Revenue Neutrality Amount	\$297.97
Total Charges	\$297.97

Real-Time Ancillary Service Imbalance Settlements increased from February 2015 to March 2015. Total payments for the month of March 2015 were \$297,972 compared to a payment of \$175,814 in February 2015.

8 of the 31 days in March had settlement dollars equal to \$0 for the day.

All days were settled as a net credit to QSEs representing generation and as a charge to QSEs representing load.

The highest settlement occurred on March 1<sup>st</sup>. The total Real Time Ancillary Service Imbalance payments on that day were \$84,723.



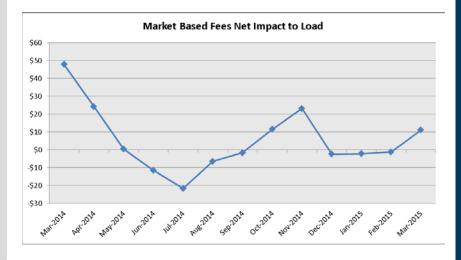
### **Net Allocation to Load – March 2015**

Market-Based Allocation	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$25.37)
Balancing Account Proceeds Settlement	\$0.00
Net Reliability Unit Commitment Settlement	\$0.00
Ancillary Services Settlement	\$34.23
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$2.08
Emergency Energy Settlement	\$0.08
Base Point Deviation Settlement	(\$0.21)
ORDC Settlement	\$0.30
Total	\$11.11
Fee Allocation	
ERCOT Administrative Fee Settlement	\$11.80
Net Allocated to Load	\$22.91

The charge for the net allocation to Load increased from last month and decreased from March of 2014.

March 2015 was a charge of \$22.91M, compared to:

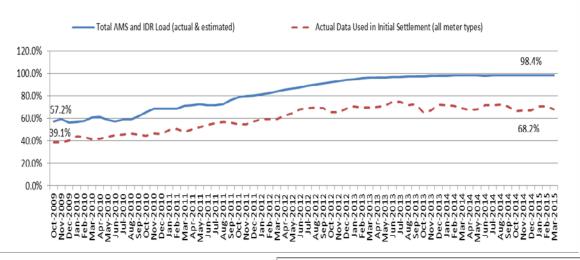
- A charge of \$10.40M in February 2015
- A charge of \$59.27M in March 2014





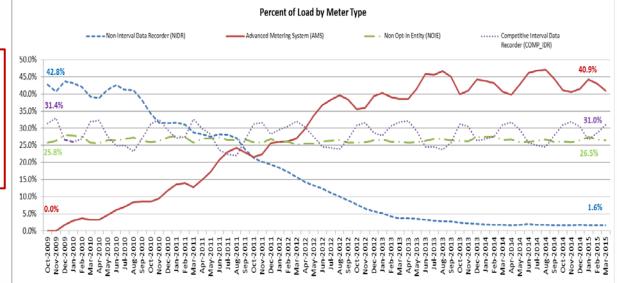
# **Advanced Meter Settlement Impacts – March 2015**





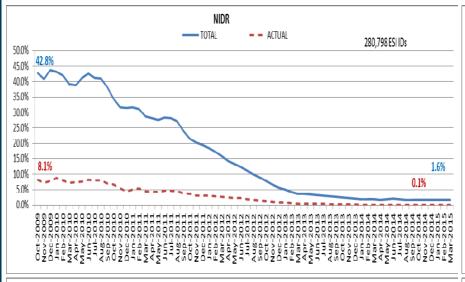
March 2015: At month end, settling 6.7M ESIIDs using Advanced Meter data.

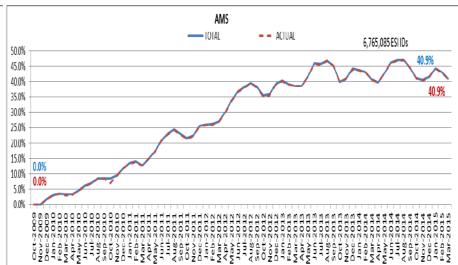
March 2015: 98.4% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

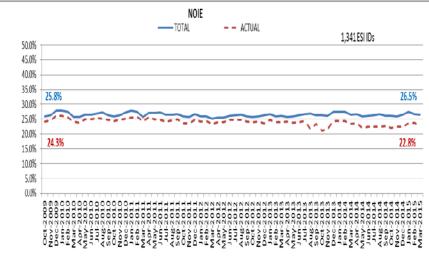


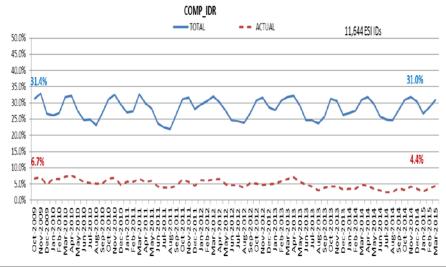


# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – March 2015











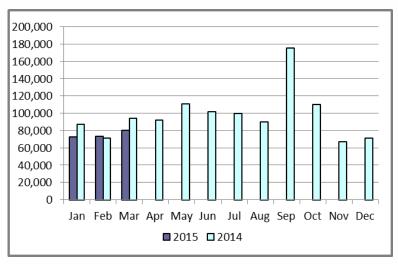
# **Retail Transaction Volumes – Summary – March 2015**

	Year-	To-Date	Transactions Received			
Transaction Type	March 2015	h 2015 March 2014 March 2015		March 2014		
Switches	226,276	251,970	79,997	93,887		
Acquisition	0	0	0	0		
Move - Ins	611,740	629,943	215,950	214,724		
Move - Outs	301,956	310,967	108,859	107,266		
Continuous Service Agreements (CSA)	120,383	146,277	44,577	70,310		
Mass Transitions	0	0	0	0		
Total	1,260,355	1,339,157	449,383	486,187		

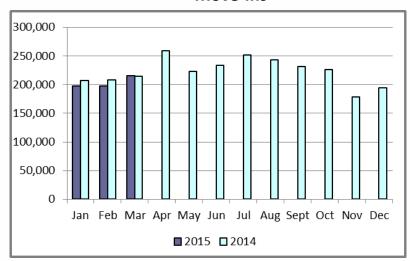


## **Retail Transaction Volumes – Summary – March 2015**

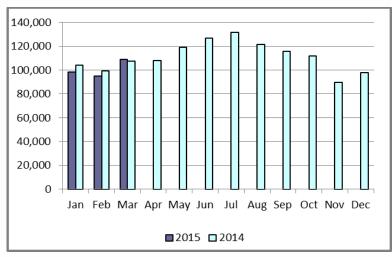
#### **Switches/Acquisitions**



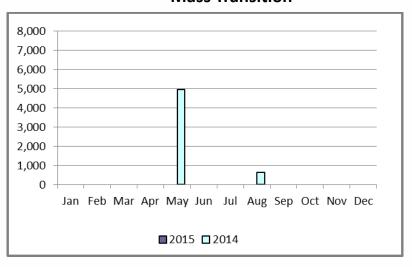
**Move-Ins** 



#### **Move-Outs**

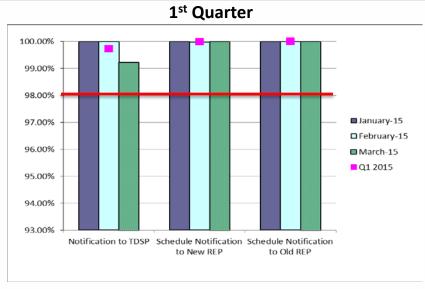


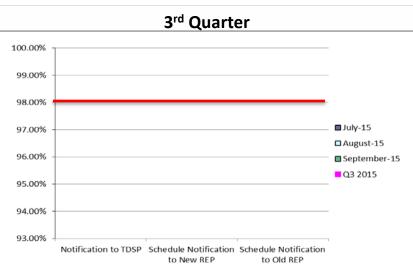
#### **Mass Transition**

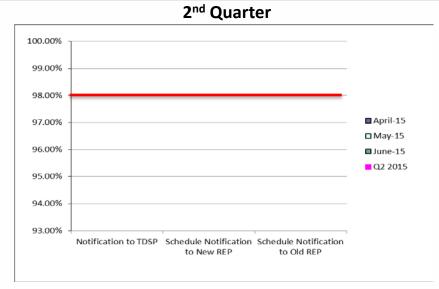


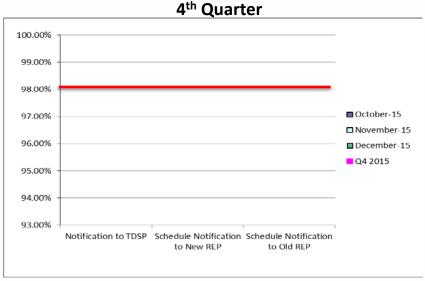


### Retail Performance Measures – Switch – March 2015



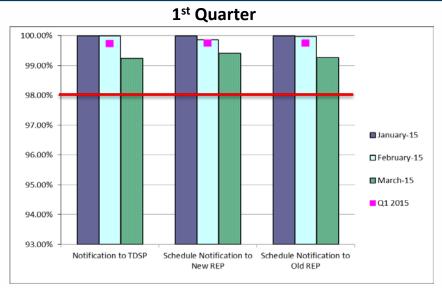


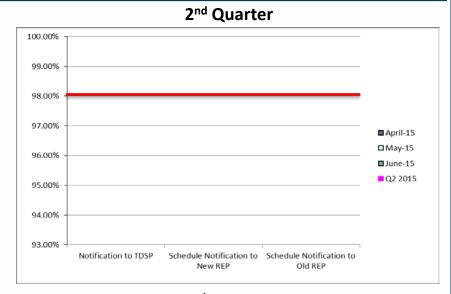


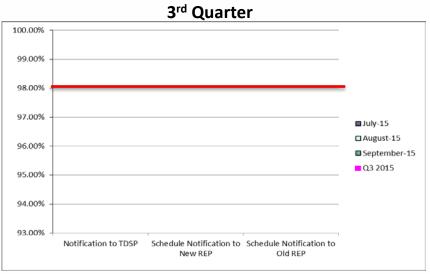


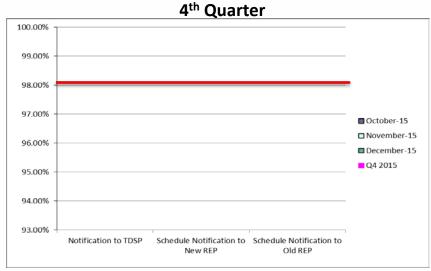


### Retail Performance Measures (Same Day Move-In) - March 2015



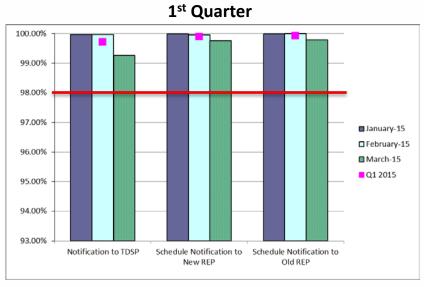


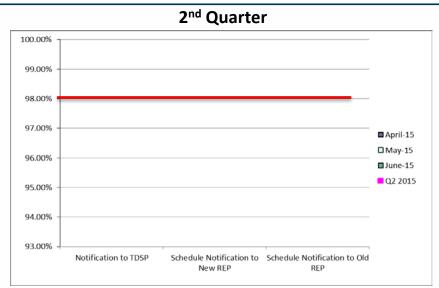




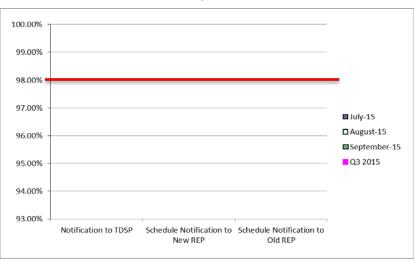


### Retail Performance Measures (Standard Move-In) - March 2015

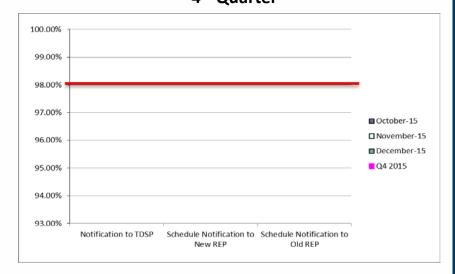








### 4<sup>th</sup> Quarter





# **Projects Report**

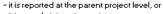
			2015 Project Fundi	ng	\$ 21,650,000		
	Impact Metric Tolerances				2015 Portfolio Spending Estimate	Total Portfolio Demand	
	e variances are represented as negative numbers within the	Projects In Flight	/On Hold (Count = 54)		\$ 25,770,285	\$ 54,567,987	
report. - Green = N	No more than 4.9% unfavorable variance	Projects Not Yet	Started (Count = 19)		\$ 1,764,258	\$ 6,914,206	
	Jnfavorable variance between 4.9% and 9.9% favorable variance more than 9.9%	Projects Complet	ed (Count = 10)		\$ 141,444	\$ 2,932,876	
- Neu - OIII	avorable variance more than 5.5%	Spending Reduct Budget	ions Required to Mainta	ain Capital	\$ (6,025,986)	N/A	
		TOTAL			\$ 21,650,000		
Project Number	Projects in Initiation Phase (Count = 5)						
159-01	NPRRs 573 and 581	•					
169-01	Short Circuit Ratio Functionality	1					
170-01	Enterprise Content Alignment Program	1					
NPRR573	Alignment of PRC Calculation	1					
SCR771	ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources						
Project Number	Projects in Planning Phase (Count = 12)	Baseline Phase Start	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact	Budget Impact
106-01	MP Online Data Entry - Ph 1	10/9/2013	3/5/2014	TBD	5/13/2015	4 -295%	8%
120-01	IT Production Hardening	2/12/2014	9/24/2014	TBD	3/4/2015	1 -71%	2 -28%
134-01	Privileged Account Management	6/5/2014	11/19/2014	TBD	3/27/2015	1 -76%	0%
141-01	Production Virtualization	11/6/2014	3/4/2015	TBD	3/4/2015	0%	1%
158-01	Move iTron LF Application to High Availability Environment	1/14/2015	6/19/2015	TBD	6/19/2015	0%	80%
161-01	NPRRs 588 and 615	2/25/2015	4/8/2015	TBD	4/1/2015	16%	0%
163-01	Cyber Security Project #10	3/4/2015	7/28/2015	TBD	6/1/2015	39%	-4%
164-01	Browser Compatibility Assessment	2/25/2015	4/29/2015	TBD	4/29/2015	0%	4%
168-01	Configuration Management System Requirements for CIP v5 Readiness	3/12/2015	6/17/2015	TBD	6/17/2015	0%	0%
NPRR588	Clarifications for PV Generation Resources	2/25/2015	4/8/2015	TBD	4/1/2015	16%	See #161-01
NPRR615	PVGR Forecasting	2/25/2015	4/8/2015	TBD	4/1/2015	16%	See #161-01
SCR775	Posting Results of Real-Time Data in a Display Format	2/11/2015	3/31/2015	TBD	3/31/2015	0%	1%
		*					



Project Number	Projects in Execution Phase (Count = 27)	Baseline Phase Start	Baseline Go-Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		·		Schedule Impact		Schedule Impact		Schedule Im		Bu	dget Impact
052-01	EMS Upgrade	9/24/2014	5/25/2016	5/25/2016	10/31/2016		0%		1%								
065-01	NMMS Upgrade	12/17/2014	5/27/2016	5/27/2016	7/11/2016		0%		7%								
089-01	Information Technology Change Management	10/29/2014	5/1/2015	5/27/2015	6/15/2015	2	-14%		0%								
097-01	ABB MMS OS Technology Refresh	8/15/2014	3/26/2015	3/26/2015	5/8/2015		0%		-2%								
116-01	Collage Replacement	2/6/2014	9/22/2014	5/7/2015	5/28/2015	4	-99%	2	-53%								
127-01	SQL Server 2012 Upgrade / Cluster Consolidation	12/18/2014	7/17/2015	7/17/2015	9/9/2015		0%		8%								
143-01	OSI Pi Visualization Enhancements	1/16/2015	6/19/2015	6/19/2015	7/22/2015		0%		-3%								
144-01	OC-48 Replacement with DWDM	2/4/2015	8/25/2015	8/25/2015	9/29/2015		0%		0%								
149-01	Market System Enhancements 2015	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%		3%								
154-01	2014 CMM NPRRs and SCRs	1/29/2015	6/13/2015	6/13/2015	7/17/2015		0%		-2%								
155-01	Replace N2N System	2/5/2015	5/14/2015	7/7/2015	8/13/2015	2	-55%	2	-23%								
156-01	Symposium Call Center Replacement	2/5/2015	5/19/2015	5/29/2015	7/9/2015	1	-9%		2%								
165-00	Capital Efficiencies and Enhancements - 2015	1/1/2015	12/31/2015	12/31/2015	12/31/2015		0%		6%								
NPRR543	Message for Confirmed E-Tags	3/18/2015	6/23/2015	6/12/2015	7/27/2015		11%		0%								
NPRR559	Revisions to MCE Calculation	1/29/2015	6/13/2015	6/13/2015	7/15/2015		0%	NA	See #154-01								
NPRR568	Real-Time Reserve Price Adder Based on Operating Reserve Demand Curve - Phase 2	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
NPRR597	Utilize Initial Estimated Liability (IEL) Only During Initial Market Activity	1/29/2015	6/13/2015	6/13/2015	7/15/2015		0%	NA	See #154-01								
NPRR598	Clarify Inputs to PRC and ORDC	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
NPRR601	Inclusion of Incremental Exposure in Mass Transitions to Counter-Parties that are Registered as QSEs and LSEs and Provide POLR Service	1/29/2015	6/13/2015	6/13/2015	7/15/2015		0%	NA	See #154-01								
NPRR626	Reliability Deployment Price Adder	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
NPRR639	Correction to Minimum Current Exposure	1/29/2015	6/13/2015	6/13/2015	7/15/2015		0%	NA	See #154-01								
NPRR644	Operating Reserve Demand Curve Phase 2 Revisions	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
NPRR645	Real-Time On-Line Capacity Revisions	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
NPRR665	As-Built Clarification of Reliability Deployment Price Adder	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
OBD	Setting the Shadow Price Caps and Power Balance Penalties in Security-Constrained Economic Dispatch	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%	NA	See #149-01								
SCR778	Credit Exposure Calculations for NOIE Options Linked to RTM PTP Obligations	1/29/2015	3/28/2015	3/28/2015	7/15/2015		0%	NA	See #154-01								
SCR779	Increase to the CRR Auction Transaction Limit	9/29/2014	3/27/2015	3/26/2015	4/23/2015		0%		12%								



Project Number	Projects in Stabilization (Count = 6)	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Schedule Impact		Schedule Impac		Bu	dget Impact															
NPRR467	Balancing Account Resettlement Due to DAM Resettlement	7/1/2014	12/6/2014	12/6/2014	4/7/2015		0%	NA	See #10052																	
NPRR580	Establishment of a Rolling CRR Balancing Account Fund	7/1/2014	12/6/2014	12/6/2014	4/7/2015		0%	NΑ	See #1005																	
10052_01	Settlement System Upgrade	1/25/2012	12/23/2014	12/6/2014	4/7/2015		1%		0%																	
122-01	Infoblox DNS/DHCP	5/21/2014	11/5/2014	11/20/2014	3/11/2015	1	-8%		12%																	
130-01	Electronic Crisis Communications Enhancements	6/19/2014	12/12/2014	2/16/2015	3/27/2015	1	-37%		-2%																	
137-01	EIS Reporting and Control Systems Upgrade	8/13/2014	1/15/2015	1/13/2015	2/25/2015		1%		6%																	
Project Number	Projects On Hold (Count = 4)	Forecast Start Date	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Schedule Impact		sase Schedule Impact		Bu	dget Impact													
SCR777	Bilateral CRR Interface Enhancement	8/20/2014	11/28/2014	TBD	TBD	3		3																		
NPRR327	State Estimator Data Redaction Methodology	12/5/2012	2/12/2013	TBD	TBD	3		3																		
129-01	Access and Roles Management	7/1/2014	10/1/2014	TBD	TBD	3		3																		
166-01	Jboss Application Monitoring & Management (JAMM)	TBD	TBD	TBD	TBD	3		3																		
Project Number	Projects Completed (Count =10)	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status		Schedule Status		Schedule Status Total		Schedule Status		Schedule Status		Schedule Status		Schedule Status		Schedule Status		Schedule Status		Schedule Status		tal Variance
NPRR500	Posting of Generation that is Off but Available	1/7/2015	2/6/2015	2/6/2015	3/27/2015		0%		52%																	
NPRR586	Align Credit Lock for CRR Auctions with Transaction Submission Deadline	7/2/2014	9/26/2014	9/22/2014	10/28/2014		4%	2	-18%																	
SCR772	New Extract for Five Minute Interval Settlement Data	11/5/2014	2/13/2015	2/12/2015	3/30/2015		1%		12%																	
057-01	EPS Metering DB Redesign	4/17/2013	9/6/2013	12/11/2014	1/14/2015	2	-324%	2	-216%																	
083-01	Centralized Application Log Management	8/28/2013	5/7/2014	3/27/2014	2/4/2015		16%		8%																	
104-01	Disaster Recovery: S&B, RTL, MDT	10/9/2014	1/18/2015	1/18/2015	1/28/2015		0%		2%																	
115-01	Cyber Security Project #14	6/30/2014	1/15/2015	1/15/2015	3/6/2015		0%		13%																	
	In-landa - ANEDO DAL TOE 004 Designation of the standard	1/14/2015	2/16/2015	2/6/2015	3/6/2015		30%		39%																	
142-01	Implementation of NERC BAL-TRE-001 Regional Standard	1/14/2013	Zi ToiZo To				•		-2%																	
142-01 150-01	Backup Resiliency	12/17/2014	2/6/2015	2/6/2015	3/2/2015		0%																			
				2/6/2015 2/19/2015	3/2/2015 3/2/2015	1	0% -90%		0%																	
150-01	Backup Resiliency	12/17/2014	2/6/2015			1			0%																	
150-01	Backup Resiliency	12/17/2014	2/6/2015 1/22/2015	2/19/2015	3/2/2015		-90%	uired	0%																	
150-01	Backup Resiliency	12/17/2014	2/6/2015 1/22/2015 Footnotes	2/19/2015	3/2/2015 d, resulting in additional	funding	-90% and/or time req																			
150-01	Backup Resiliency	12/17/2014	2/6/2015 1/22/2015 Footnotes 1 - One or more phases tool	2/19/2015	3/2/2015 d, resulting in additional	funding	-90% and/or time req																			
150-01	Backup Resiliency	12/17/2014	2/6/2015 1/22/2015 Footnotes 1 - One or more phases tool 2 - One or more phases req	2/19/2015 k longer than expecte uired more labor than	3/2/2015 d, resulting in additional expected, resulting in ad	funding	-90% and/or time req																			
150-01	Backup Resiliency	12/17/2014	2/6/2015 1/22/2015 Footnotes 1 - One or more phases tool 2 - One or more phases req 3 - Project placed on hold	2/19/2015  I longer than expecte uired more labor than sulted in delay to one	3/2/2015 d, resulting in additional expected, resulting in additional or more phases	funding	-90% and/or time req I funding and/or	time re	quired																	



<sup>-</sup> it is an administrative project

NA - Metric not calculated because:



Project Number	2015 Projects Not Yet Started (Count = 19)	Forecast Start Date
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments - Phase 1b / 2	Apr-2015
TBD	Physical Security Project #2	Apr-2015
TBD	Retail Market Testing Website	Apr-2015
NPRR553	Monthly BLT Payment and Charge for Presidio Exception	May-2015
NOGRR084	Daily Grid Operations Summary Report	Jul-2015
NPRR210	Wind Forecasting Change to P50, Sync with PRR841	Jul-2015
NPRR219	Resolution of Alignment Items A33, A92, A106, and A150 - TSPs Must Submit Outages for Resource Owned Equipment and Clarification of Changes in Status of Transmission Element Postings	Jul-2015
NPRR256	Sync with PRR787, Add Non-Compliance Language to QSE Performance Standards	Jul-2015
NPRR419	Revise Real Time Energy Imbalance and RMR Adjustment Charge	Jul-2015
NPRR495	Changes to Ancillary Services Capacity Monitor	Jul-2015
NPRR556	Resource Adequacy During Transmission Equipment Outage	Jul-2015
RRGRR003	Modifications to Improve Wind Forecasting	Jul-2015
SCR783	Outage Scheduler Enhancements – Group 2, Usability and Filtering Enhancements	Jul-2015
TBD	AV Upgrades to TCC1 Conference Rooms	Jul-2015
NPRR515	Day-Ahead Market Self-Commitment of Generation Resources	Aug-2015
NPRR617	Energy Offer Flexibility	Aug-2015
TBD	CRR UI Framework Upgrade	Aug-2015
TBD	CREZ Voltage Control and Coordination - Phase 2	Oct-2015
NPRR620	Collateral Requirements for Counter-Parties with No Load or Generation	Nov-2015

