

# **ERCOT Monthly Operational Overview (February 2015)**

ERCOT Public March 15, 2015

# **Grid Planning & Operations**

#### **Summary – February 2015**

#### **Operations**

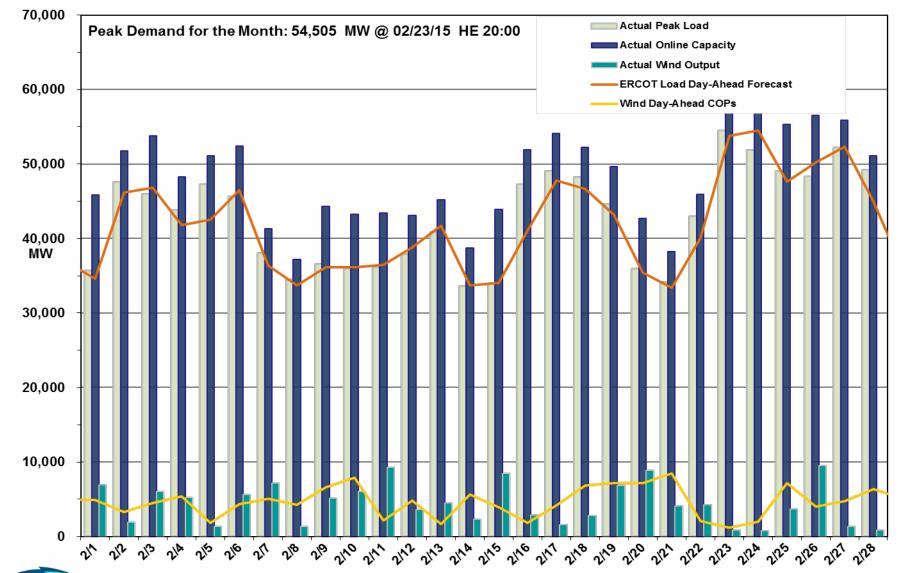
- The peak demand of 54,505 MW on February 23rd was slightly greater than the mid-term forecast peak of 53,767 MW of the same operating period. However, it was less than the February 2014 actual peak demand of 57,056 MW. The instantaneous peak load on February 23rd was 54,753 MW.
- Day-ahead load forecast error for February was 3.38%
- ERCOT issued four notifications
  - One advisory due to cold weather (2/20)
  - One Transmission Watch due to a forced transmission outage (2/22)
  - One OCN due to new Generic Transmission Constraint (2/27)
  - One advisory due to postponing of the DAM solution (2/28)

#### **Planning Activities**

- 245 active generation interconnection requests totaling over 63,000 MW, including 25,300 MW of wind generation as of February 28, 2015. Six additional requests and 900 more MW from January 31, 2015.
- 12,575 MW wind capacity in commercial operations on February 28, 2015.

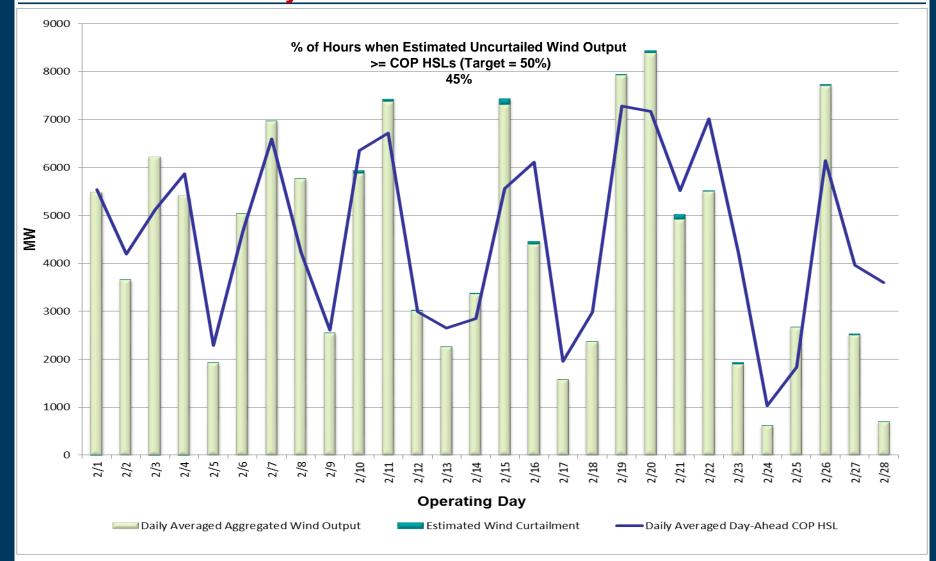


# Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak – February 2015





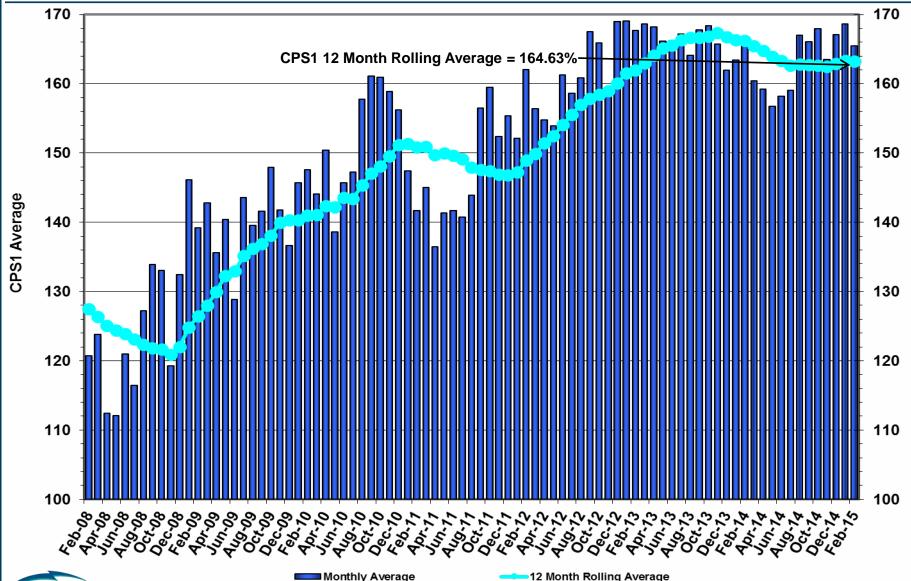
# Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – February 2015





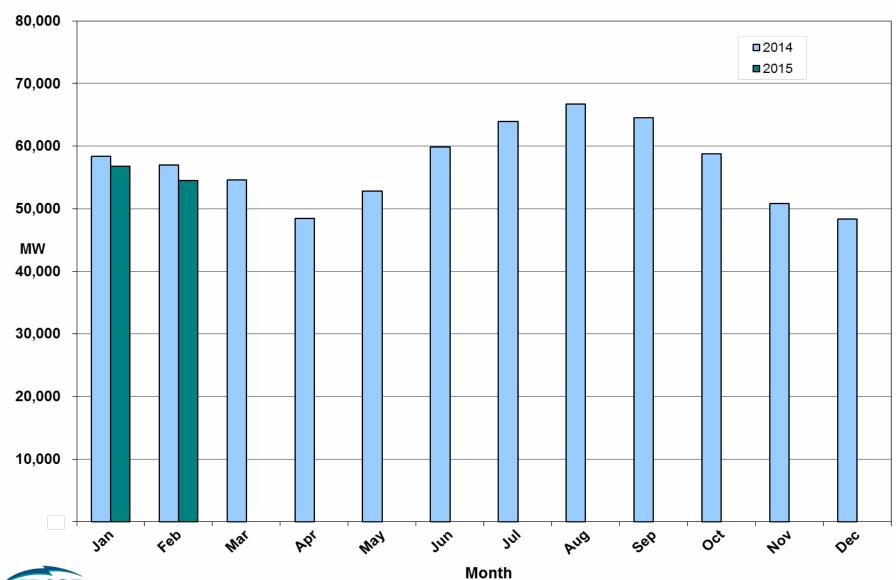
Note: QSEs must use the AWST 50% probability of exceedance forecast as the HSL in their COPs

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

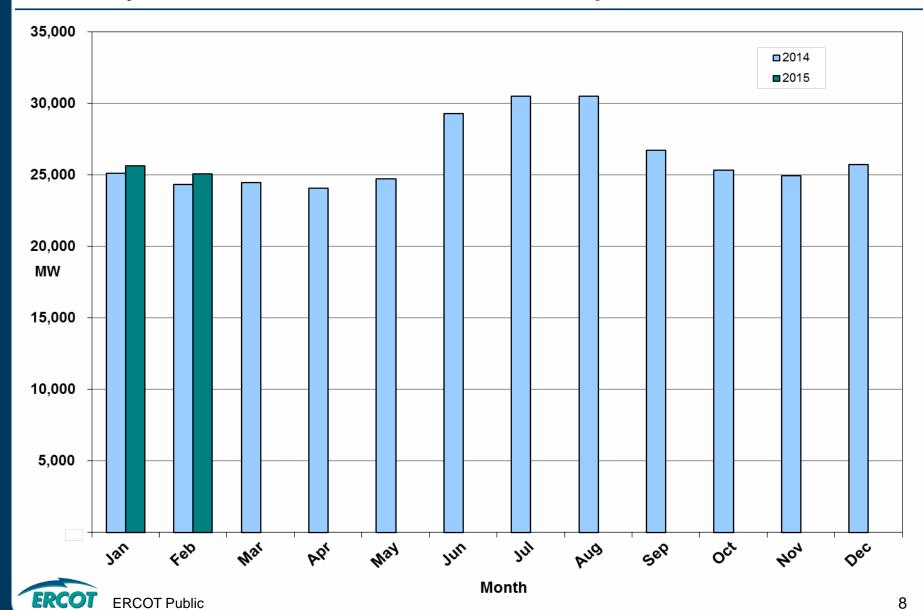




### **Monthly Peak Actual Demand – February 2015**



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



#### **Day-Ahead Load Forecast Performance – February 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	Februa MA	
Average Annual MAPE	3.02	2.86	2.83	3.41	3.3	38
Lowest Monthly MAPE	2.51	2.07	2.15	3.38	Lowest Daily MAPE	1.07 Feb – 21
Highest Monthly MAPE	3.49	3.50	3.70	3.44	Highest Daily MAPE	8.95 Feb - 16



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

There were no HRUC or DRUC commitments for this month.



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

GTCs	Feb 14 Days GTCs	Dec 14 Days GTCs	Jan 15 Days GTCs	Feb 15 Days GTCs	Last 12 Months Total Days (Mar14 - Feb15)
North – Houston	0	0	0	0	0
West - North	0	0	0	0	6
Valley Import	2	0	2	0	8
SOP110	0	0	0	0	10

**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.

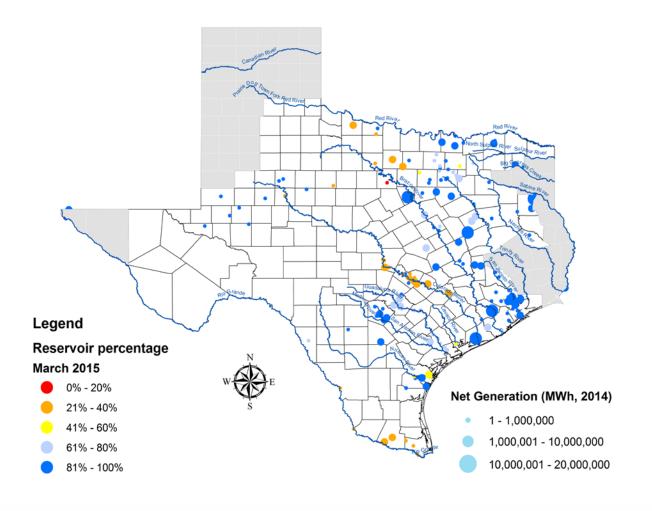


#### **Advisories and Watches - February 2015**

- One advisory due to cold weather
  - Issued on 2/20
- One Transmission Watch due to forced transmission outage
  - Issued on 2/22
- One OCN due to new Generic Transmission Constraint
  - Issued on 2/27
- One advisory due to postponing of the DAM Solution
  - Issued on 2/28



### **Lake Levels Update – March 1, 2015**

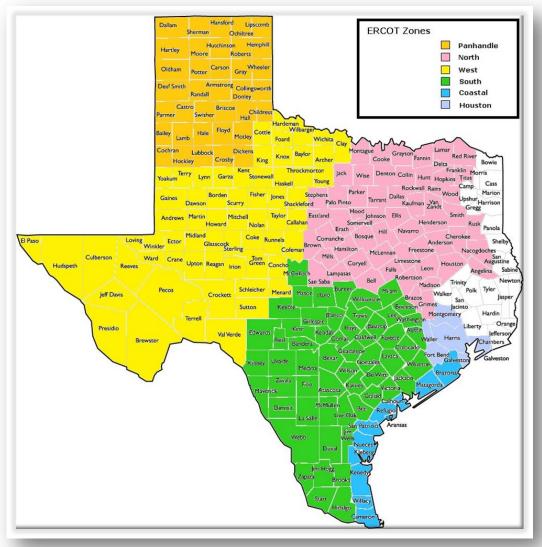




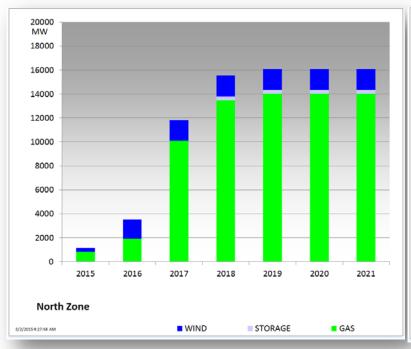
#### Planning Summary – February 2015

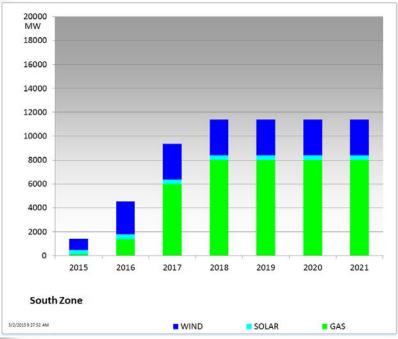
- ERCOT is currently tracking 245 active generation interconnection requests totaling over 63,000 MW. This includes over 25,300 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$421.3 Million.
- Transmission Projects endorsed in 2015 total \$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.



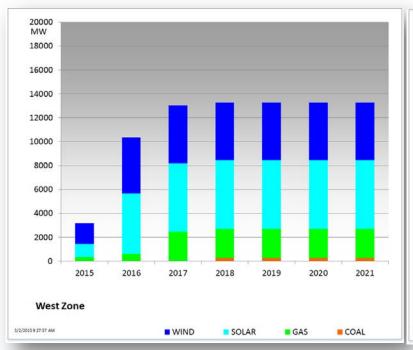


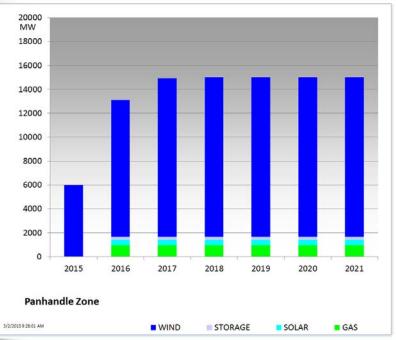


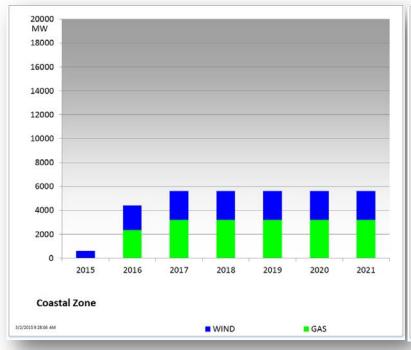


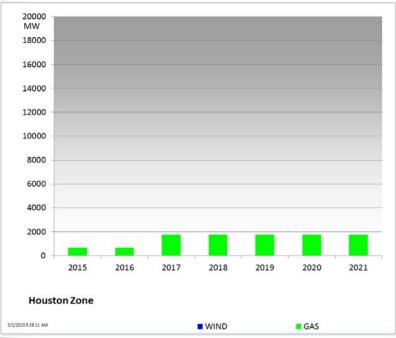






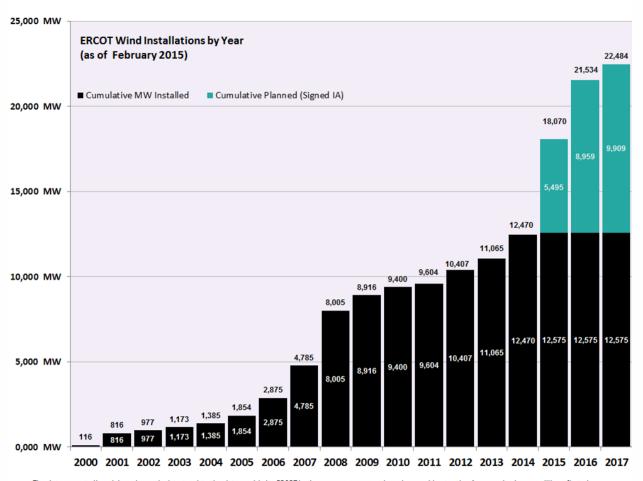








#### Wind Generation – February 2015

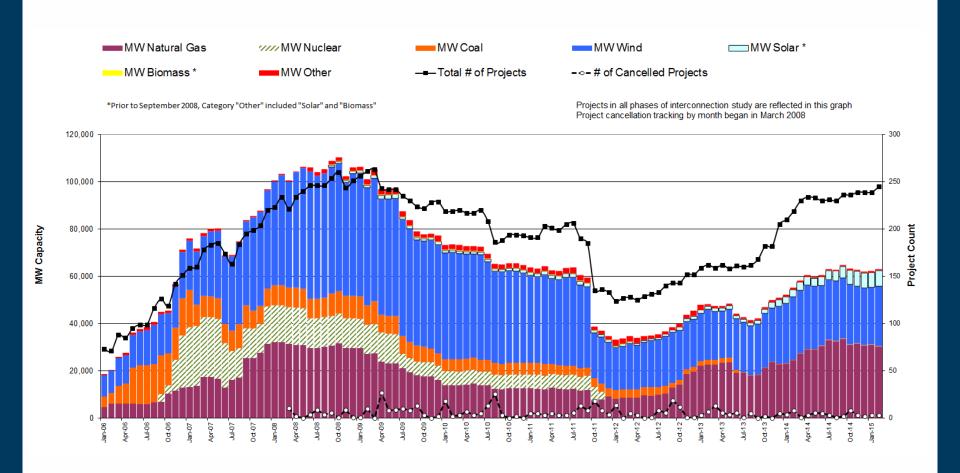


The data presented here is based upon the latest registration data provided to ERCOT by the resource owners and can change without notice. Any capacity changes will be reflected in current and subsequent years' totals. Scheduling delays will also be reflected in the planned projects as that information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

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

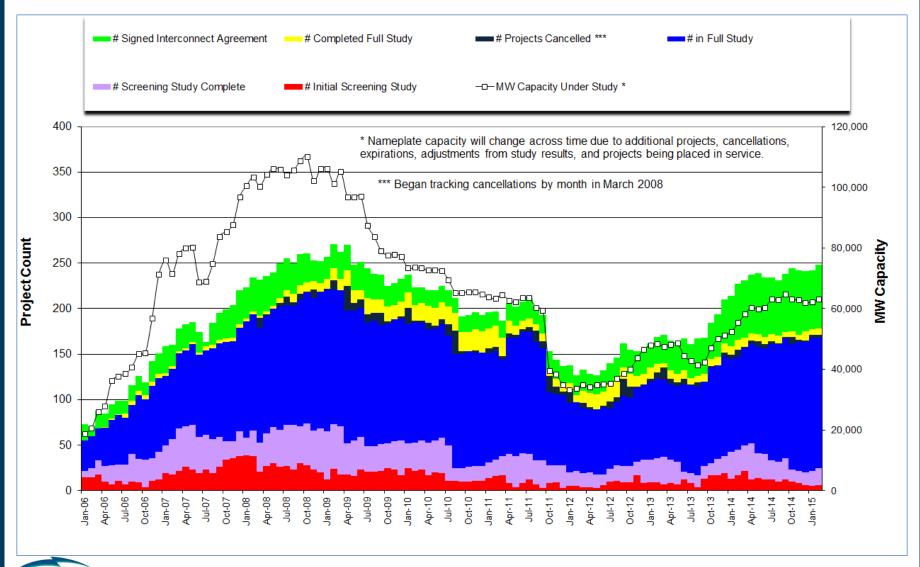


### **Generation Interconnection Activity by Fuel – February 2015**



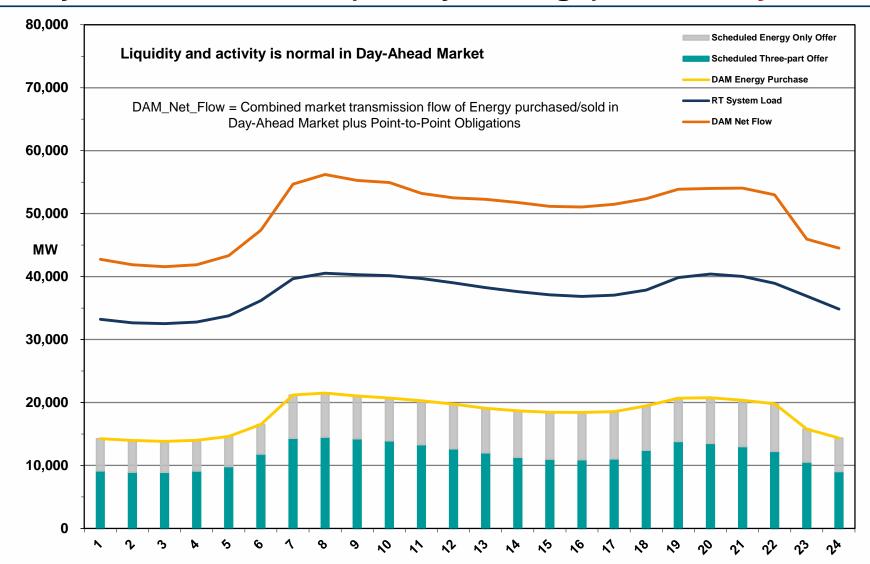


#### **Generation Interconnection Activity by Project Phase – Feb 2015**



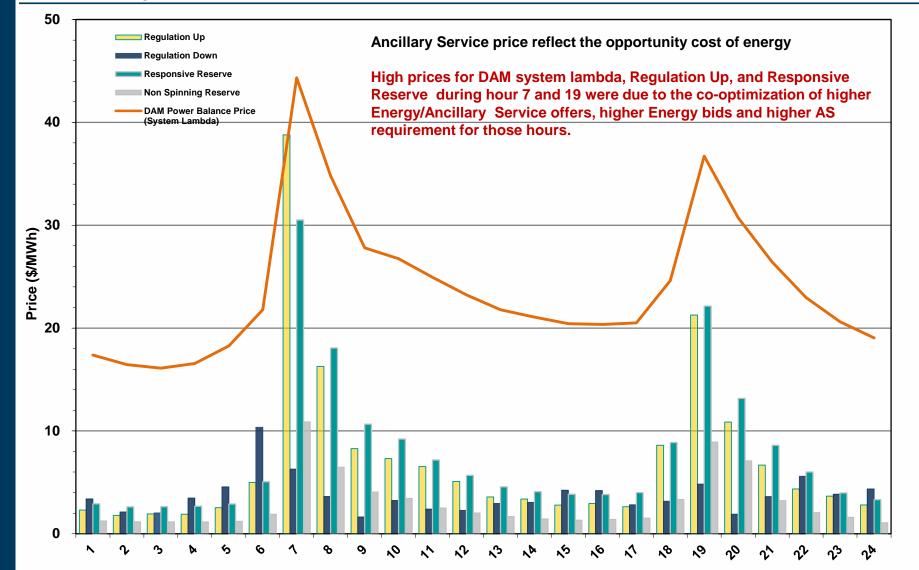
# **Market Operations**

# Day-Ahead Schedule (Hourly Average) - February 2015



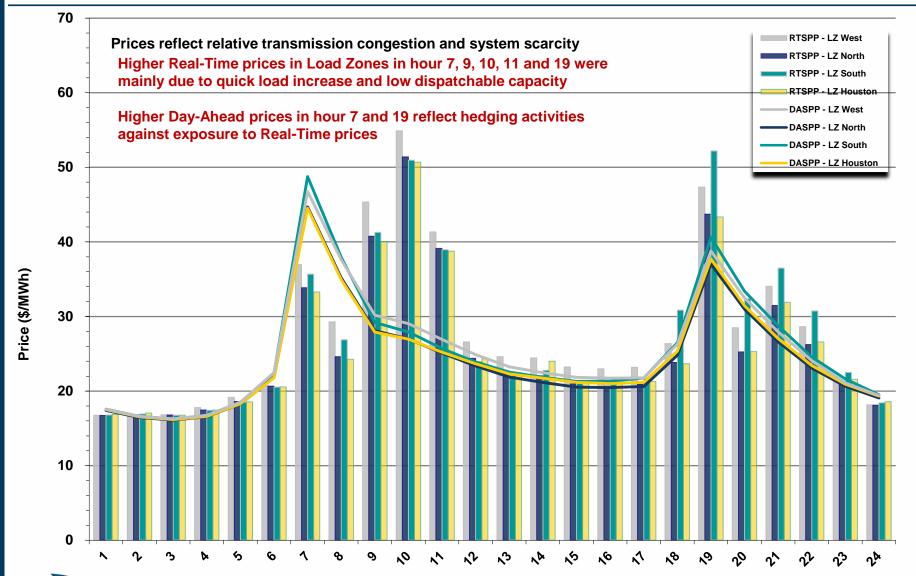


# Day-Ahead Electricity And Ancillary Service Hourly Average Prices – February 2015



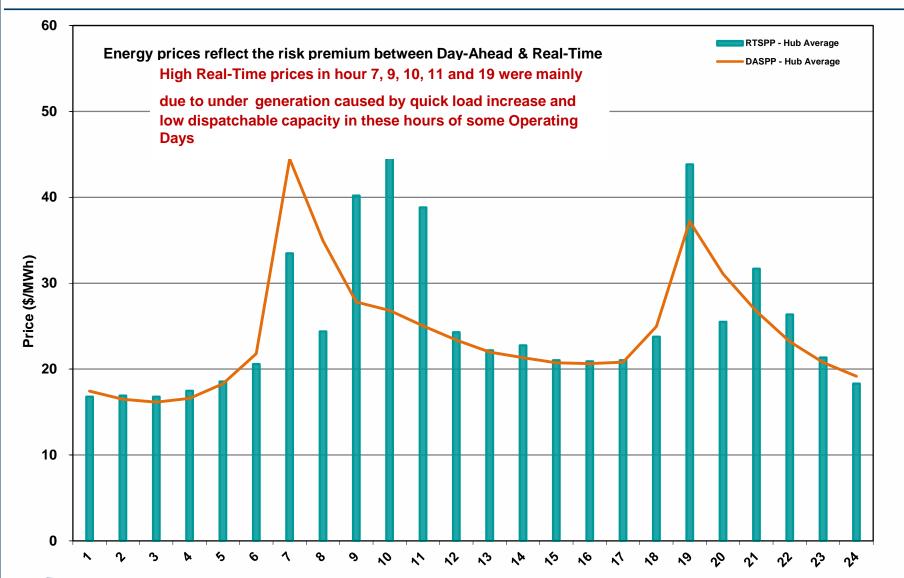


#### Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – February 2015



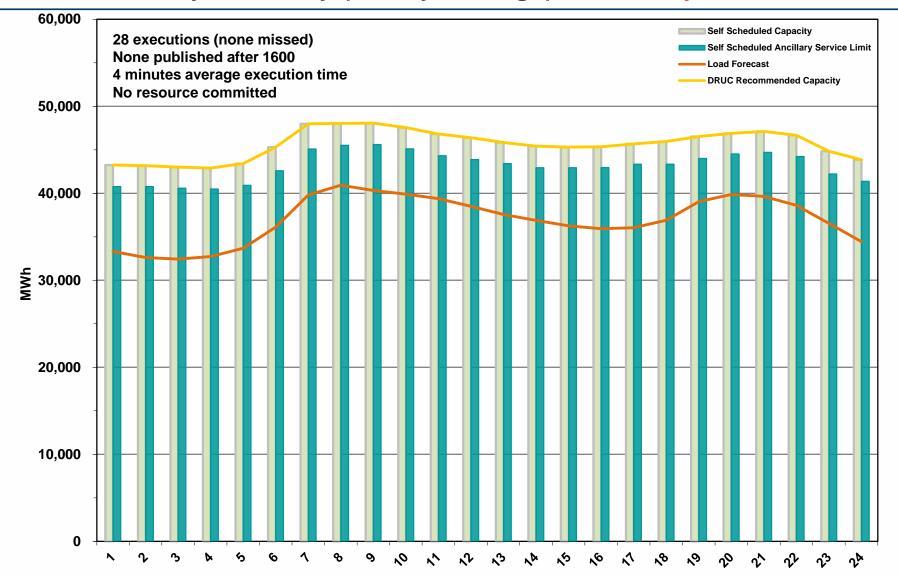


#### Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – Feb 2015



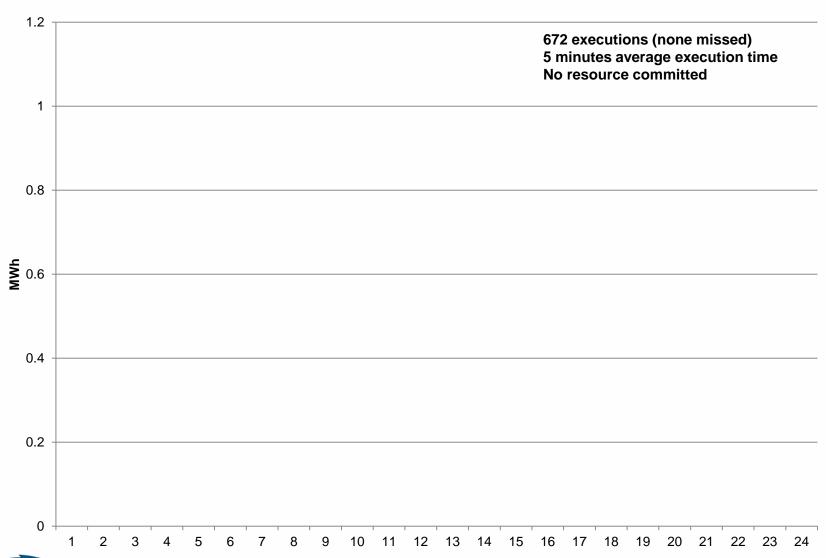


#### **DRUC Monthly Summary (Hourly Average) – February 2015**





# **HRUC Monthly Summary – February 2015**

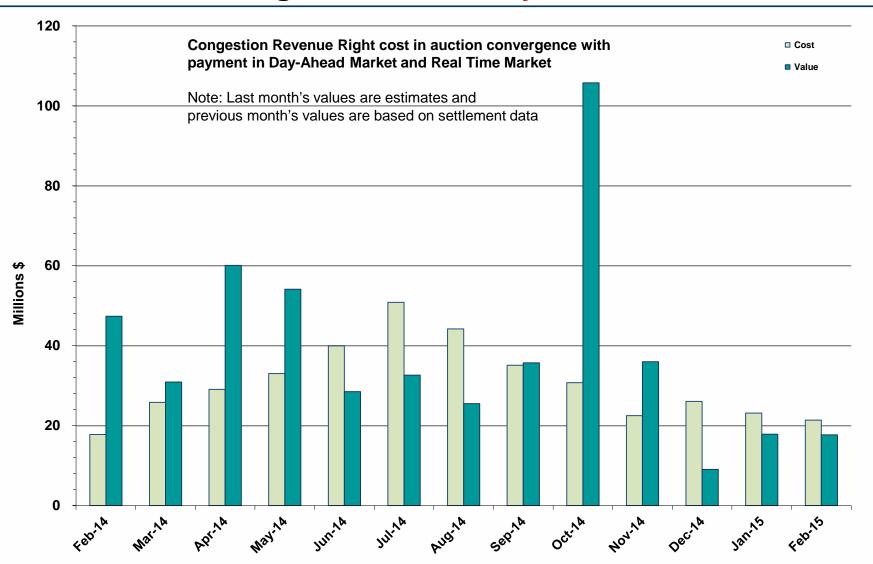




### **Non-Spinning Reserve Service Deployment – February 2015**

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

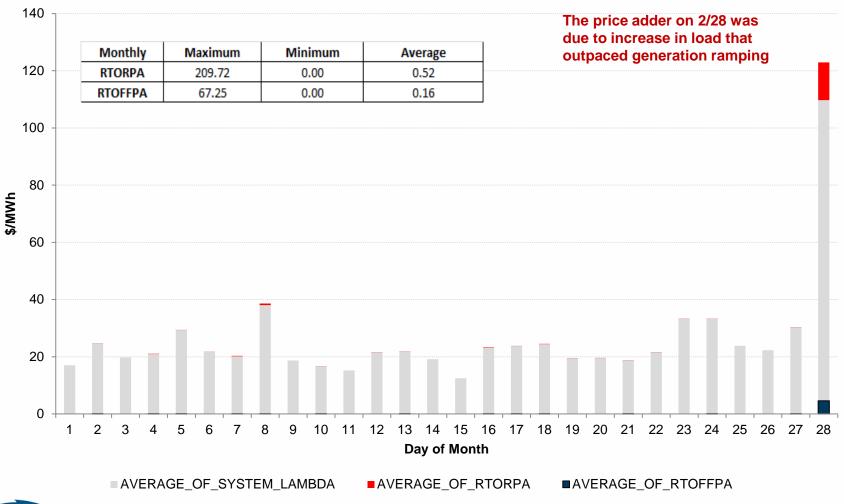
# **CRR Price Convergence – February 2015**





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

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





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

	BH1	BH2	ВН3	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 – February 2015

	l
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 decreased in February. RUC Clawback Charges were \$0.00M.

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

- \$0.02M credit in January 2015
- \$0.41M credit in February 2014



## **Capacity Services – February 2015**

Capacity Services	\$ in Millions
Regulation Up Service	\$2.50
Regulation Down Service	\$1.18
Responsive Reserve Service	\$12.65
Non-Spinning Reserve Service	\$2.93
Black Start Service	\$0.56
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges	\$19.82

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

February 2015 cost was \$19.82M, compared to:

- A charge of \$18.20M in January 2015
- A charge of \$60.89M in February 2014

### **Energy Settlement – February 2015**

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$319.40
Point to Point Obligation Purchases	\$14.11
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$313.75)
Day-Ahead Congestion Rent	\$19.76
Day-Ahead Market Make-Whole Payments	(\$0.30)

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$419.76)
Energy Imbalance at a Load Zone	\$575.49
Energy Imbalance at a Hub	(\$137.06)
Real Time Congestion from Self Schedules	\$0.49
Block Load Transfers and DC Ties	(\$3.15)
Impact to Revenue Neutrality	\$16.01
Emergency Energy Payments	(\$0.08)
Base Point Deviation Charges	\$0.34
Real-Time Metered Generation (MWh in millions)	25.05

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

	\$ in Millions
Annual Auction	(\$15.37)
Monthly Auction	(\$5.88)
Total Auction Revenue	(\$21.25)
Day-Ahead CRR Settlement	(\$17.71)
Day-Ahead CRR Short-Charges	\$0.13
Day-Ahead CRR Short-Charges Refunded	(\$0.13)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
Total CRR Funding	(\$17.71)
Day-Ahead Point to Point Obligations Settlement	\$14.11
Real-Time Point to Point Obligation Settlement	(\$16.21)
Net Point to Point Obligation Settlement	(\$2.10)

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

Point to Point Obligations settled with a net payment of \$2.10M compared to a net payment of \$2.36M last month.



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

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$1.77
CRR Balancing Account Credit Total	\$2.18
CRR PTP Option Award Charges	\$0.05
Day-Ahead CRR Short-Charges Refunded	(\$0.13)
Total Fund Amount	\$3.87

ERCOT implemented the rolling CRR Balancing Account Fund beginning with Operating Month December 2014. The month of February 2015 closed with \$2,096,606 in excess Day-Ahead congestion rent which was deposited into the Fund.

As of February 2015, the amount available in the CRR Balancing Account Fund is \$3,864,535.



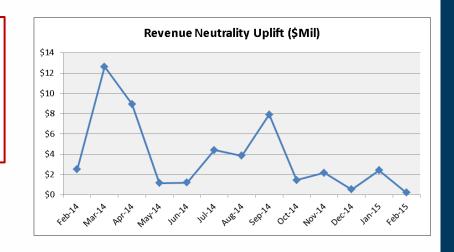
# **Revenue Neutrality – February 2015**

Revenue Neutrality Settlement	\$ in Millions
Real-Time Point to Point Obligation Settlement	(\$16.21)
Real-Time Point to Point Options and Options with Refund Settlement	\$0.00
Real-Time Energy Imbalance Settlement	\$18.66
Real-Time Congestion from Self-Schedules Settlement	\$0.49
DC Tie & Block Load Transfer Settlement	(\$3.15)
Charge to Load	\$0.21

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

February 2015 was a charge of \$0.21M, compared to:

- \$2.39M charge in January 2015
- \$2.49M charge in February 2014





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

Real Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance Payment Amount	(\$175.81)
Load Allocated AS Imbalance Revenue Neutrality Amount	\$175.81
Total Charges	\$175.81

Real-Time Ancillary Service Imbalance Settlements increased from January 2015 to February 2015. Total payments for the month of February 2015 were \$175,814 compared to a payment of \$52,700 in January 2015.

10 of the 28 days in February 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 February 28<sup>th</sup>. The total Real Time Ancillary Service Imbalance payments on that day were \$142,223.



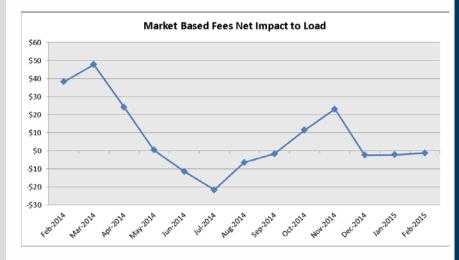
# **Net Allocation to Load – February 2015**

Market-Based Allocation	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$21.25)
Balancing Account Proceeds Settlement	\$0.00
Net Reliability Unit Commitment Settlement	\$0.00
Ancillary Services Settlement	\$19.82
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$0.21
Emergency Energy Settlement	\$0.08
Base Point Deviation Settlement	(\$0.34)
ORDC Settlement	\$0.18
Total	(\$1.30)
Fee Allocation	
ERCOT Administrative Fee Settlement	\$11.70
Net Allocated to Load	\$10.40

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

February 2015 was a charge of \$10.40M, compared to:

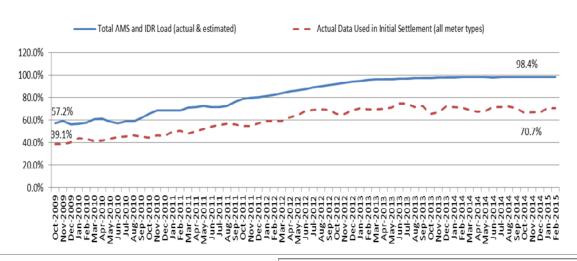
- A charge of \$11.19M in January 2015
- A charge of \$49.76M in February 2014





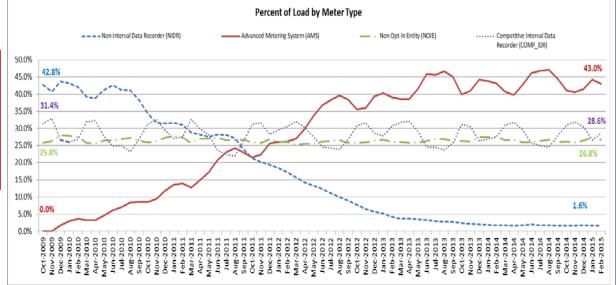
# **Advanced Meter Settlement Impacts – February 2015**





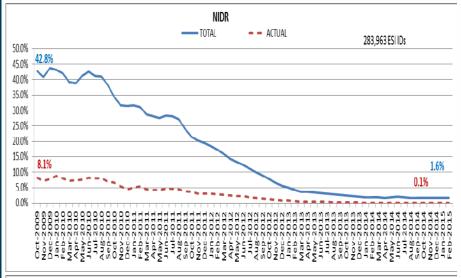
February 2015: At month end, settling 6.7M ESIIDs using Advanced Meter data.

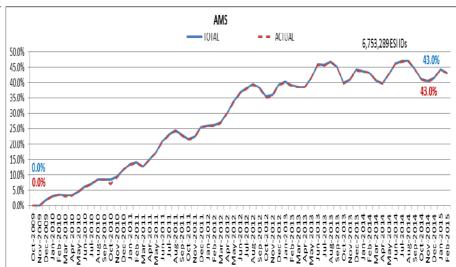
February 2015: 98.4% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

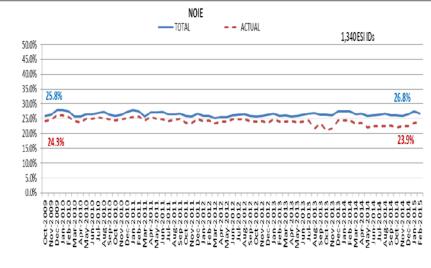


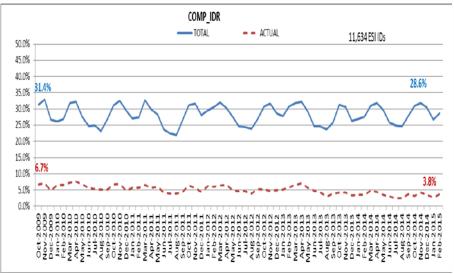


# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – February 2015











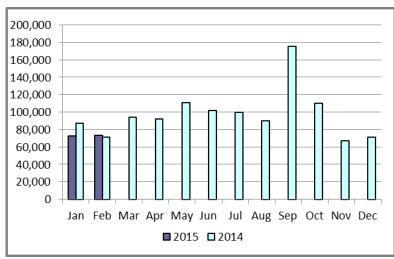
# **Retail Transaction Volumes – Summary – February 2015**

	Year-	To-Date	Transactions Received			
Transaction Type	February 2015	February 2014	February 2015	February 2014		
Switches	146,279	158,083	73,394	71,130		
Acquisition	0	0	0	0		
Move - Ins	395,790	415,219	197,765	208,160		
Move - Outs	193,097	203,701	94,864	99,428		
Continuous Service Agreements (CSA)	75,806	75,967	35,386	41,156		
Mass Transitions	0	0	0	0		
Total	810,972	852,970	401,409	419,874		

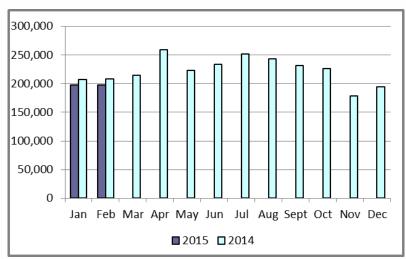


### **Retail Transaction Volumes – Summary – February 2015**

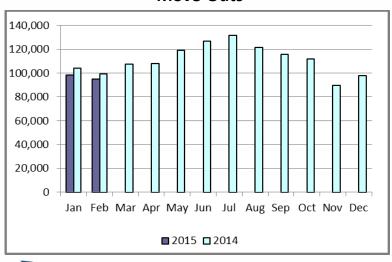
#### **Switches/Acquisitions**



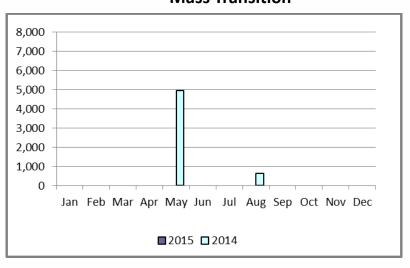
Move-Ins



#### **Move-Outs**



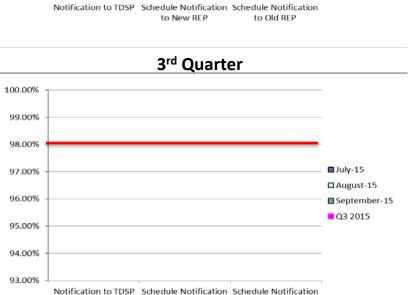
#### **Mass Transition**





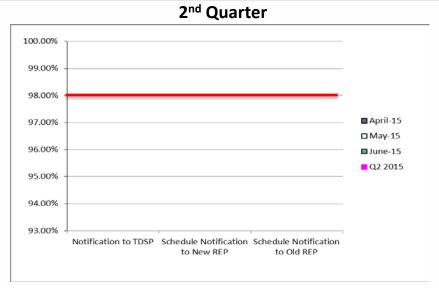
# Retail Performance Measures – Switch – February 2015

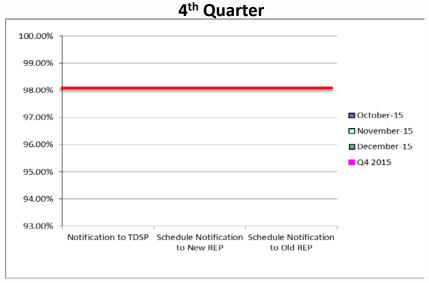




to New REP

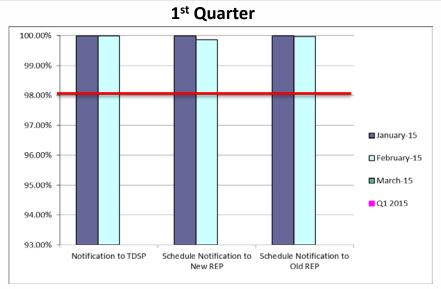
to Old REP

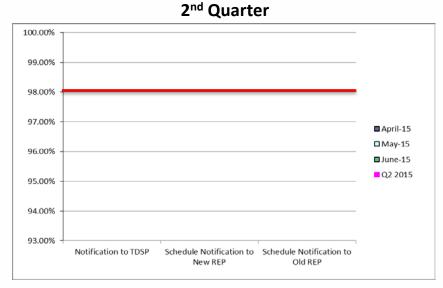


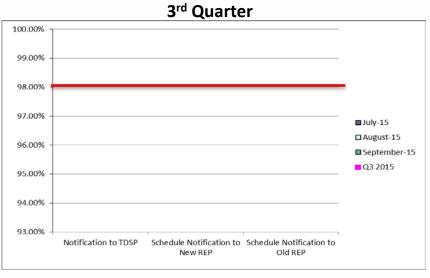


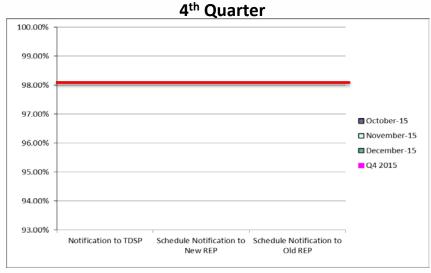


### Retail Performance Measures (Same Day Move-In) – February 2015



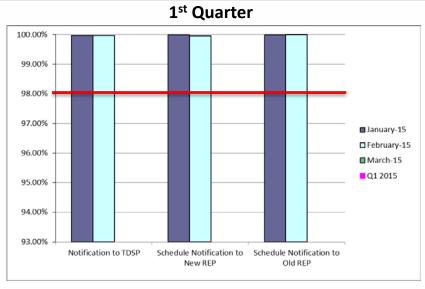


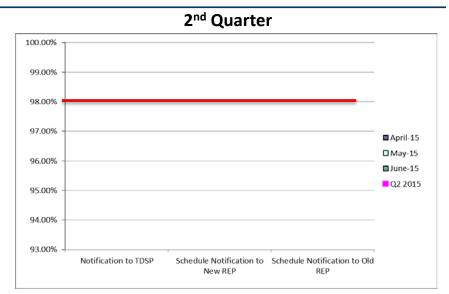




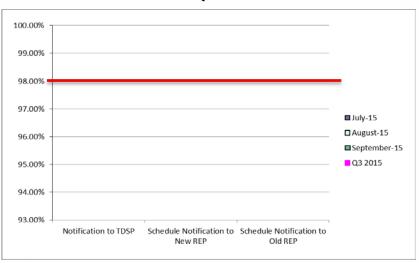


### Retail Performance Measures (Standard Move-In) – February 2015

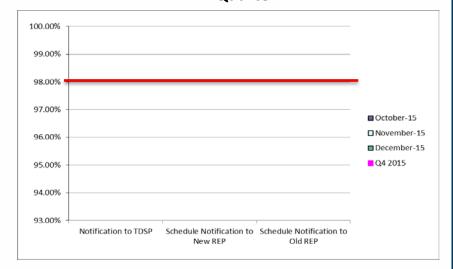








#### 4<sup>th</sup> Quarter





# **Projects Report**

Impact Metric Tolerances				2015 Project Fundin	g	\$ 21,650,000				
Project   Project sin Initiation Phase (Count = 9)   Project sin Initiation Phase (Count = 9)   Project sin Initiation Monitoring & Management (JAMM)   Project sin PRRS438 and 651   Project sin PRRS438 and 651   Project sin PRRS438 and 651   Project sin Initiation Phase (Count = 9)   Project sin Initiation Monitoring & Management (JAMM)   Project sin Initiation Monitoring & Management (JAMM)   Project sin Initiation Monitoring & Management (JAMM)   Project sin Initiation Phase (Project sin Initiation Monitoring & Management (JAMM)   Project sin Initiation Monitoring (Jamagement (JAMM)   Project sin Initiation Monitoring (Jamagement (JAMM)   Project sin Initiation (Jamagement (JAMM)   Project sin Initia		Impact Metric Tolerances								
- Green = No more than 4.9% unfavorable variance - Yellow = Unfavorable variance between 4.9% and 9.9% - Red = Unfavorable variance between 4.9% and 9.9% - Red = Unfavorable variance more than 9.9%		e variances are represented as negative numbers within the	Projects In Flight	t/On Hold (Count = 58)		\$ 23,966,135	\$	52,271,443		
Project Number		No more than 4.9% unfavorable variance	Projects Not Yet	Started (Count = 20)		\$ 1,644,557	\$	6,794,505		
Project Number   Projects in Initiation Phase (Count = 9)   Project Salar Initiation Phase (Count = 9)   Project Number   Project Salar Initiation Phase (Count = 9)   Project Salar Initiation Phase (			Projects Comple	ted (Count = 4)		\$ 19,420	\$	1,807,746		
Project Number   Projects in Initiation Phase (Count = 9)	- Red = Un		l .	tions Required to Main	tain Capital	\$ (3,980,112)	<u>2)</u> N/A			
Number   Projects in Initiation Phase (Count = 9)			TOTAL			\$ 21,650,000	\$	60,873,695		
Number   Projects in Initiation Phase (Count = 9)										
Various   NPRRs 573 and 581   Various   NPRRs 588 and 615		Projects in Initiation Phase (Count = 9)								
Various   NPRRs 588 and 615   166-01   Joses Application Monitoring & Management (JAMM)   TBD   Short Circuit Ratio Functionality   Short Circuit Ratio Functional Ratio Functionality   Short Circuit Ratio Functional Ratio Functional Ratio Funct	163-01	Cyber Security Project #10								
166-01   Joss Application Monitoring & Management (JAMM)   TBD   Short Circuit Ratio Functionality   Short Circuit Ratio Functional Ratio Functionality   Short Circuit Ratio Functional Rat	Various	NPRRs 573 and 581								
TBD   Short Circuit Ratio Functionality   NPRR573   Alignment of PRC Calculation   NPRR588   Clarifications for PV Generation Resources   NPRR615   PVGR Forecasting   ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources   Reduiled Phase Finish   Scheduled	Various	NPRRs 588 and 615								
NPR8573         Alignment of PRC Calculation         Alignment of PRC Calculation         Image: Clarification of PV Generation Resources         Image: Clarification School of PV Generation Resources         Image: Clarification Resources         Image: Clarification School of Pole of	166-01	Jboss Application Monitoring & Management (JAMM)								
NPRR588         Clarifications for PV Generation Resources         NPRR615         PVGR Forecasting         Scheduled Represent Split Generation Resources           Project Number         Projects in Planning Phase (Count = 9)         Baseline Phase Start         Baseline Phase Finish Go-Live Date         Scheduled Go-Live Date         Scheduled Phase Finish         Scheduled Phase Finish         Scheduled Go-Live Date         Scheduled Phase Finish         Scheduled Phase Fi	TBD	Short Circuit Ratio Functionality								
NPRR615   PVGR Forecasting	NPRR573	Alignment of PRC Calculation								
SCR771   ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources   Baseline Phase Start   Baseline Phase Finish   Scheduled Phase Fin	NPRR588	Clarifications for PV Generation Resources								
Project Number   Projects in Planning Phase (Count = 9)   Baseline Phase Start   Baseline Phase Finish   Scheduled Go-Live Date   Finish   Scheduled Phase Finish   Phase Phase Finish   Scheduled Phase Finish   Scheduled Phase Finish   Scheduled Phase Finish   Phase P	NPRR615	PVGR Forecasting								
Number         Projects in Planning Phase (Count = 9)         Start         Baseline Phase Finish         Go-Live Date         Finish         Schedule Impact         Budget Impact           106-01         MP Online Data Entry - Ph 1         10/9/2013         3/5/2014         TBD         3/31/2015         4         -265%         8%           120-01         IT Production Hardening         2/12/2014         9/24/2014         TBD         3/4/2015         1         -71%         2         -26%           129-01         Access and Roles Management         7/1/2014         10/1/2014         TBD         3/20/2015         2         -184%         0%           134-01         Privileged Account Management         6/5/2014         11/19/2014         TBD         5/20/2015         1         -108%         0%           141-01         Production Virtualization         11/6/2014         3/4/2015         TBD         3/4/2015         0%         0%           158-01         Move iTron LF Application to High Availability Environment         1/14/2015         6/19/2015         TBD         6/19/2015         0%         0%           164-01         Browser Compatibility Assessment         2/25/2015         4/29/2015         TBD         3/31/2015         2         -108%         0% <td>SCR771</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	SCR771									
120-01         IT Production Hardening         2/12/2014         9/24/2014         TBD         3/4/2015         1         -71%         2         -26%           129-01         Access and Roles Management         7/1/2014         10/1/2014         TBD         3/20/2015         2         -184%         0%           134-01         Privileged Account Management         6/5/2014         11/19/2014         TBD         5/20/2015         1         -108%         0%           141-01         Production Virtualization         11/6/2014         3/4/2015         TBD         3/4/2015         0%         0%           158-01         Move iTron LF Application to High Availability Environment         1/14/2015         6/19/2015         TBD         6/19/2015         0%         85%           164-01         Browser Compatibility Assessment         2/25/2015         4/29/2015         TBD         4/29/2015         0%         0%           NPRR543         Message for Confirmed E-Tags         2/11/2015         3/6/2015         TBD         3/31/2015         2         -108%         0%		Projects in Planning Phase (Count = 9)	I Rasolino Phaso Finish I			Schedule Impact		pact Budget Impact		
129-01       Access and Roles Management       7/1/2014       10/1/2014       TBD       3/20/2015       2       -184%       0%         134-01       Privileged Account Management       6/5/2014       11/19/2014       TBD       5/20/2015       1       -108%       0%         141-01       Production Virtualization       11/6/2014       3/4/2015       TBD       3/4/2015       0%       0%         158-01       Move iTron LF Application to High Availability Environment       1/14/2015       6/19/2015       TBD       6/19/2015       0%       85%         164-01       Browser Compatibility Assessment       2/25/2015       4/29/2015       TBD       4/29/2015       0%       0%         NPRR543       Message for Confirmed E-Tags       2/11/2015       3/6/2015       TBD       3/31/2015       2       -108%       0%	106-01	MP Online Data Entry - Ph 1	10/9/2013	3/5/2014	TBD	3/31/2015	4	-265%		8%
134-01       Privileged Account Management       6/5/2014       11/19/2014       TBD       5/20/2015       1       -108%       0%         141-01       Production Virtualization       11/6/2014       3/4/2015       TBD       3/4/2015       0%       0%         158-01       Move iTron LF Application to High Availability Environment       1/14/2015       6/19/2015       TBD       6/19/2015       0%       85%         164-01       Browser Compatibility Assessment       2/25/2015       4/29/2015       TBD       4/29/2015       0%       0%         NPRR543       Message for Confirmed E-Tags       2/11/2015       3/6/2015       TBD       3/31/2015       2       -108%       0%	120-01	IT Production Hardening	2/12/2014	9/24/2014	TBD	3/4/2015	1	-71%	2	-26%
141-01       Production Virtualization       11/6/2014       3/4/2015       TBD       3/4/2015       0%       0%         158-01       Move iTron LF Application to High Availability Environment       1/14/2015       6/19/2015       TBD       6/19/2015       0%       85%         164-01       Browser Compatibility Assessment       2/25/2015       4/29/2015       TBD       4/29/2015       0%       0%         NPRR543       Message for Confirmed E-Tags       2/11/2015       3/6/2015       TBD       3/31/2015       2       -108%       0%	129-01	Access and Roles Management	7/1/2014	10/1/2014	TBD	3/20/2015	2	-184%		0%
158-01         Move iTron LF Application to High Availability Environment         1/14/2015         6/19/2015         TBD         6/19/2015         0%         85%           164-01         Browser Compatibility Assessment         2/25/2015         4/29/2015         TBD         4/29/2015         0%         0%           NPRR543         Message for Confirmed E-Tags         2/11/2015         3/6/2015         TBD         3/31/2015         2         -108%         0%	134-01	Privileged Account Management	6/5/2014	11/19/2014	TBD	5/20/2015	1	-108%		0%
164-01         Browser Compatibility Assessment         2/25/2015         4/29/2015         TBD         4/29/2015         0%         0%           NPRR543         Message for Confirmed E-Tags         2/11/2015         3/6/2015         TBD         3/31/2015         2         -108%         0%	141-01	Production Virtualization	11/6/2014	3/4/2015	TBD	3/4/2015		0%		0%
NPRR543         Message for Confirmed E-Tags         2/11/2015         3/6/2015         TBD         3/31/2015         2         -108%         0%	158-01	Move iTron LF Application to High Availability Environment	1/14/2015	6/19/2015	TBD	6/19/2015		0%		85%
NPRR543         Message for Confirmed E-Tags         2/11/2015         3/6/2015         TBD         3/31/2015         2         -108%         0%	164-01		2/25/2015	4/29/2015	TBD	4/29/2015		0%		0%
	NPRR543	<u> </u>	2/11/2015	3/6/2015	TBD	3/31/2015	2	-108%		0%
	SCR775	\$ <del></del>	2/11/2015	3/31/2015	TBD	3/31/2015		0%		0%



	<del>-</del>		-						
Project Number	Projects in Execution Phase (Count = 29)	Baseline Phase Start	Baseline Go-Live Target	Scheduled Go-Live Date	Schedule Impa		e Schedule Impact		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	6/16/2016	7/28/2016		-3%		3%
089-01	Information Technology Change Management	10/29/2014	5/1/2015	5/27/2015	6/15/2015	2	-14%	2	-8%
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	4/9/2015	4/30/2015	4	-87%	2	-51%
127-01	SQL Server 2012 Upgrade / Cluster Consolidation	12/18/2014	7/17/2015	7/17/2015	9/9/2015		0%		7%
130-01	Electronic Crisis Communications Enhancements	6/19/2014	12/12/2014	2/16/2015	3/27/2015	1	-37%		3%
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%		12%
153-01	Infrastructure Performance Management	12/22/2014	1/22/2015	2/19/2015	3/2/2015	1	-90%		0%
155-01	Replace N2N System	2/5/2015	5/14/2015	5/27/2015	6/3/2015	2	-13%	2	-7%
156-01	Symposium Call Center Replacement	2/5/2015	5/19/2015	5/13/2015	6/30/2015		5%		5%
165-00	Capital Efficiencies and Enhancements - 2015	1/1/2015	12/31/2015	12/31/2015	12/31/2015		0%		0%
Various	Market System Enhancements 2015	1/15/2015	6/28/2015	6/28/2015	8/11/2015		0%		1%
Various	2014 CMM NPRRs and SCRs	1/29/2015	6/13/2015	6/13/2015	7/15/2015		0%		0%
NPRR500	Posting of Generation that is Off but Available	1/7/2015	2/6/2015	2/6/2015	3/27/2015		0%		33%
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%		5%



Project Number	Projects in Stabilization (Count = 9)	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Schedule Impact		Вι	udget 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%	NA	See #10052			
10052_01	Settlement System Upgrade	1/25/2012	12/23/2014	12/6/2014	4/7/2015		1%		0%			
115-01	Cyber Security Project #14	6/30/2014	1/15/2015	1/15/2015	3/6/2015		0%		11%			
122-01	Infoblox DNS/DHCP	5/21/2014	11/5/2014	11/20/2014	3/11/2015	1	-8%		9%			
137-01	EIS Reporting and Control Systems Upgrade	8/13/2014	1/15/2015	1/13/2015	2/25/2015		1%		2%			
142-01	Implementation of NERC BAL-TRE-001 Regional Standard	1/14/2015	2/16/2015	2/6/2015	3/6/2015		30%		27%			
150-01	Backup Resiliency	12/17/2014	2/6/2015	2/6/2015	3/2/2015		0%		-2%			
SCR772	New Extract for Five Minute Interval Settlement Data	11/5/2014	2/13/2015	2/12/2015	3/30/2015		1%		4%			
	A											
Project Number	Projects On Hold (Count = 2)	Forecast Start Date	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Schedule Impact		Schedule Impact Bu		udget 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				
Project Number	Projects Completed (Count =4)	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status		Schedule Status		То	otal Variance	
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	-17%			
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%			
		***************************************	X									
			Footnotes									
			1 - One or more phases took	k longer than expected	, resulting in additional fur	nding and	d/or time require	d				
			2 - One or more phases requ	uired more labor than e	expected, resulting in addi	tional fui	nding and/or time	e requir	ed			
			3 - Project placed on hold									
			4 - Resource constraints resulted in delay to one or more phases									
			5 - Project was on an urgent timeline to meet a pre-defined target implementation date. Compressed project planning					planning				
			required budget estimation before full requirements were known. Additional effort needed, resulting in additional funding.					itional funding.				
	NA - Metric not calculated because:  - it is reported at the parent project level, or  - it is an administrative project											



Project Number	2015 Projects Not Yet Started (Count = 20)	Forecast Start Date
NPRR256	Sync with PRR787, Add Non-Compliance Language to QSE Performance Standards	Mar-2015
NPRR589	Ancillary Service Offers in the Supplemental Ancillary Services  Market	Mar-2015
TBD	Retail Market Testing Website	Mar-2015
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments - Phase 1b / 2	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	
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
TBD	Physical Security Project #2	Jul-2015
NPRR515	IPRR515 Day-Ahead Market Self-Commitment of Generation Resources	
NPRR617	RR617 Energy Offer Flexibility	
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

