

# ERCOT Monthly Operational Overview (October 2015)

ERCOT Public November 15, 2015

# **Grid Planning & Operations**

#### **Summary – October 2015**

#### **Operations**

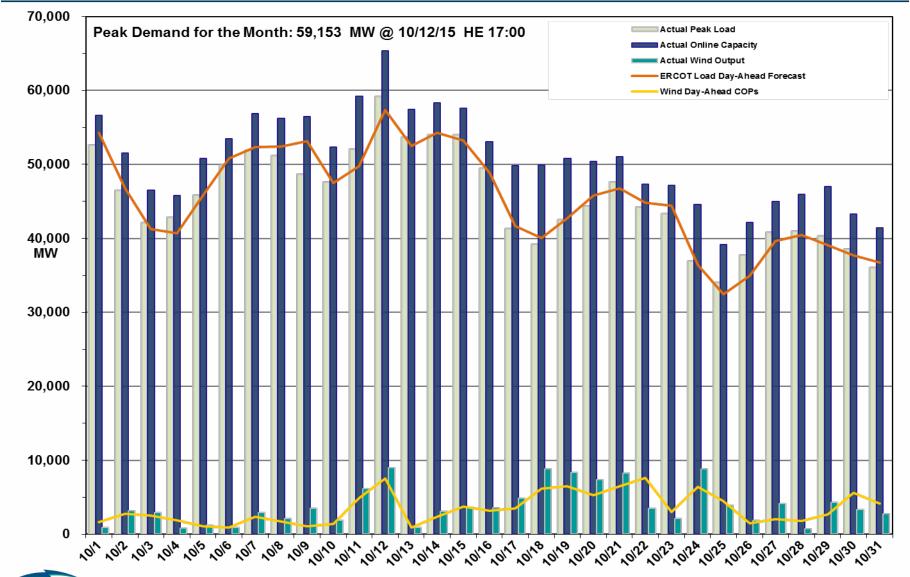
- The peak demand of 59,153 MW on October 12th was greater than the day-ahead mid-term forecast peak of 57,378 MW of the same operating period. In addition, it was slightly greater than the October 2014 actual peak demand of 58,421 MW. The instantaneous peak load on October 12th was 59,337 MW.
- Day-ahead load forecast error for October was 2.46%
- ERCOT issued six notifications
  - One advisory due to a GMD alert of K-7
  - One media appeal for energy conservation due to a potential Rio Grande Valley import limit exceedance
  - Two transmission emergency notices due to a potential Rio Grande Valley import limit exceedance
  - One OCN due to a projected reserve capacity insufficiency
  - One OCN due to a significant rain event affecting the ERCOT region

#### **Planning Activities**

- 269 active generation interconnection requests totaling 63,026 MW, including 24,753 MW of wind generation, as of October 31, 2015. Two additional requests and an increase of 33 MW from September 30, 2015.
- 14,386 MW wind capacity in commercial operations on October 31, 2015.

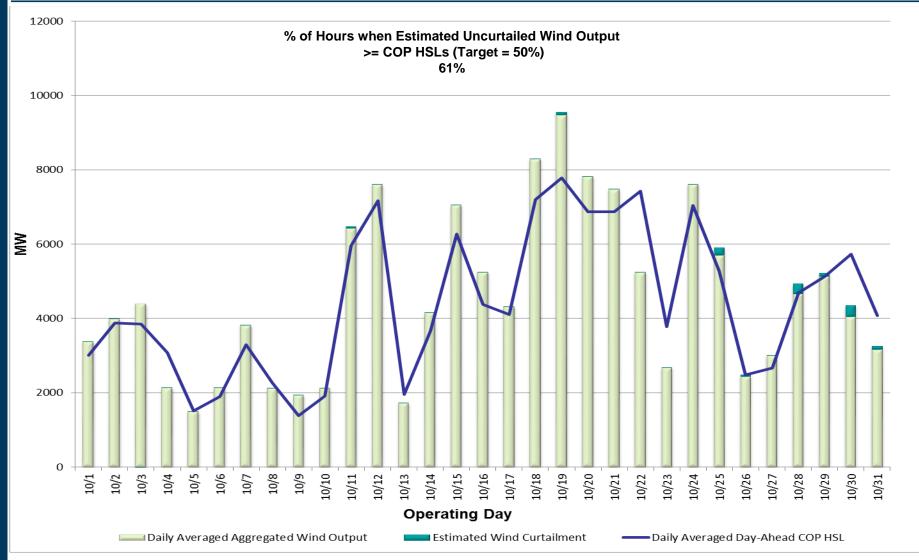


# Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak – October 2015





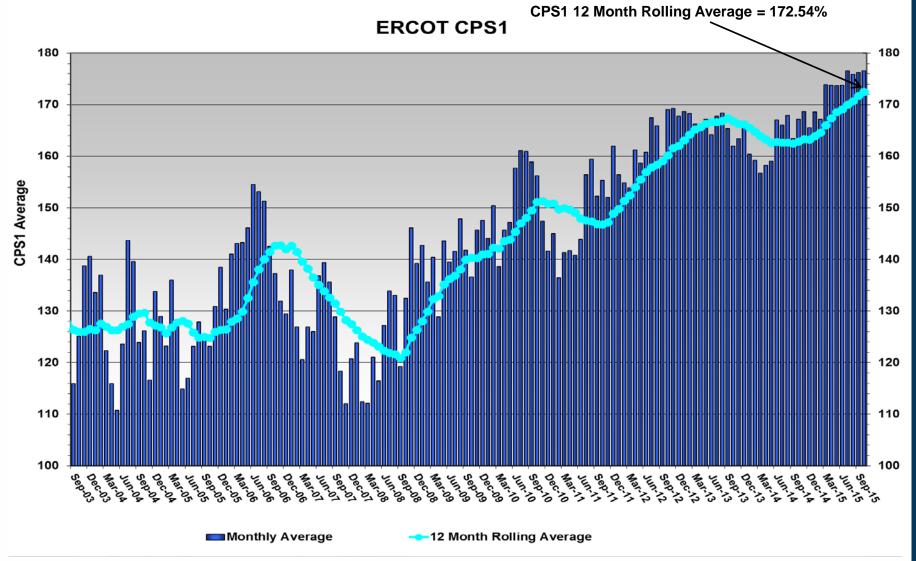
# Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – October 2015





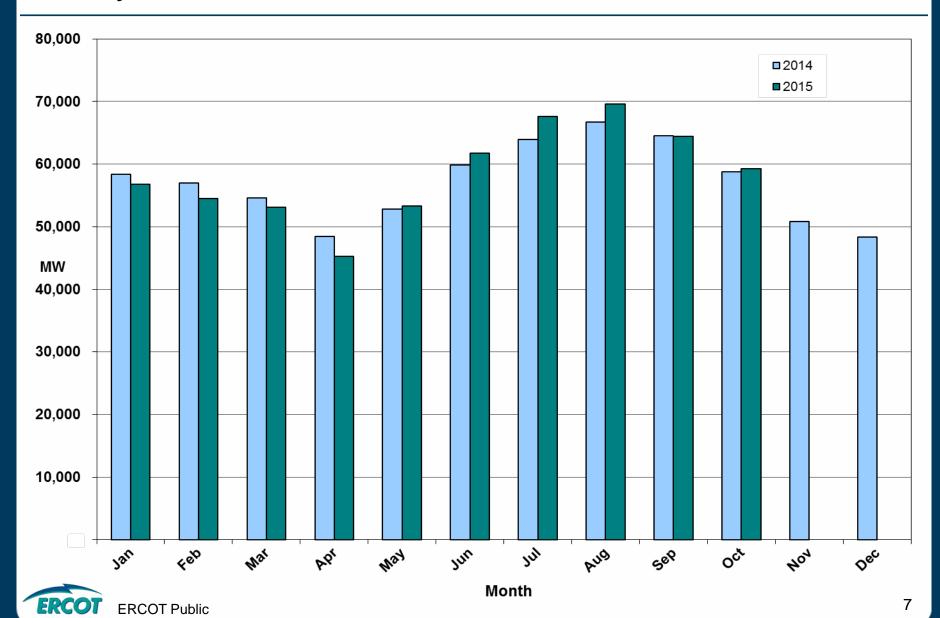
Note: QSEs must use the AWST 50% probability of exceedance forecast as the HSL in their COPs

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

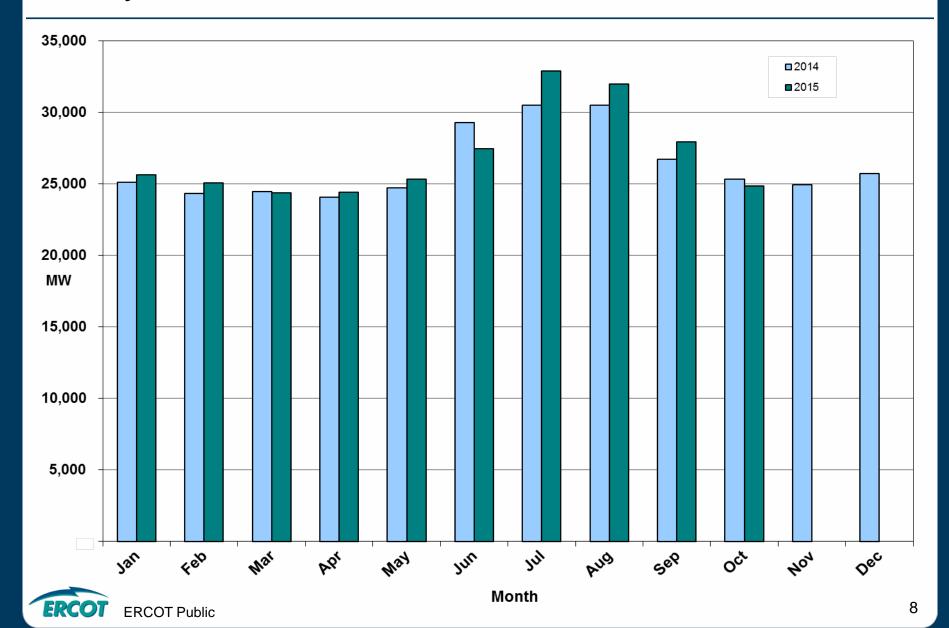




#### **Monthly Peak Actual Demand – October 2015**



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



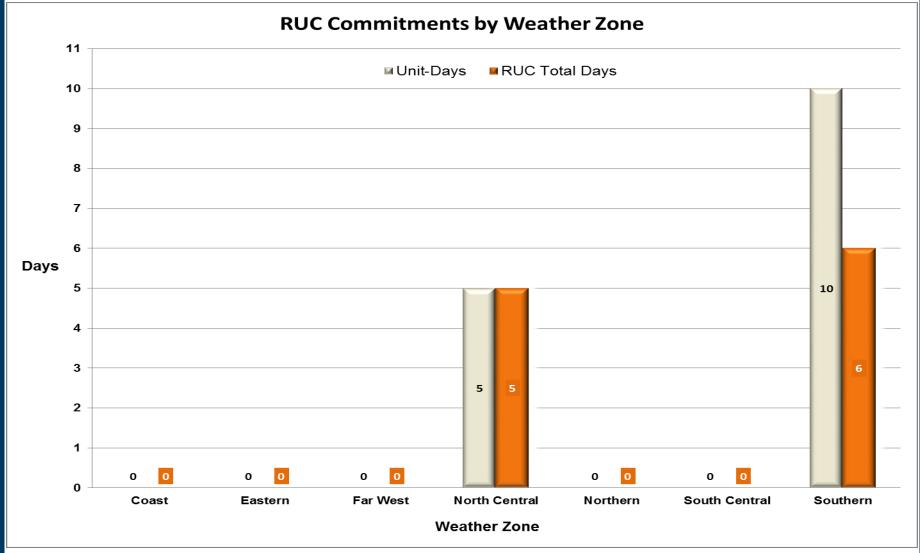
#### **Day-Ahead Load Forecast Performance – October 2015**

# 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	October 2015 MAPE	
Average Annual MAPE	3.02	2.86	2.83	2.87	2.46	
Lowest Monthly MAPE	2.51	2.07	2.15	1.89	Lowest Daily MAPE	0.85 Oct – 3
Highest Monthly MAPE	3.49	3.50	3.70	3.81	Highest Daily MAPE	<b>4.63</b> Oct – 31



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





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

GTCs	Oct-14 Days	Aug-15 Days	Sep-15 Days	Oct-15 Days	Last 12 Months Total Days
	GTCs	GTCs	GTCs	GTCs	(Oct 14 – Sep 15)
North – Houston	0	0	0	0	3
Valley Import	2	0	0	3	5
Zorillo - Ajo	-	11	4	9	85
Panhandle	-	0	0	0	0
Laredo	-	-	2	1	3

**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.

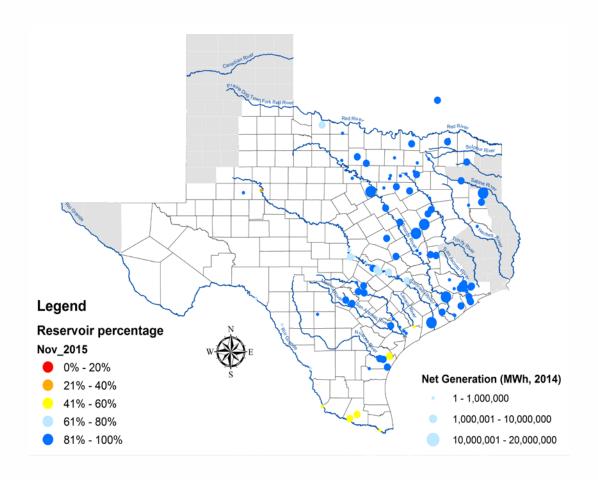


#### **Advisories and Watches - October 2015**

- One advisory due to a GMD alert of K-7
  - Issued on 10/7
- One media appeal for energy conservation due to a potential Rio Grande Valley import limit exceedance
  - Issued on 10/13
- Two transmission emergency notices due to a potential Rio Grande Valley import limit exceedance
  - Issued on 10/13 and 10/28
- One OCN due to a projected reserve capacity insufficiency
  - Issued on 10/23
- One OCN due to a significant rain event affecting the ERCOT region
  - Issued on 10/23



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



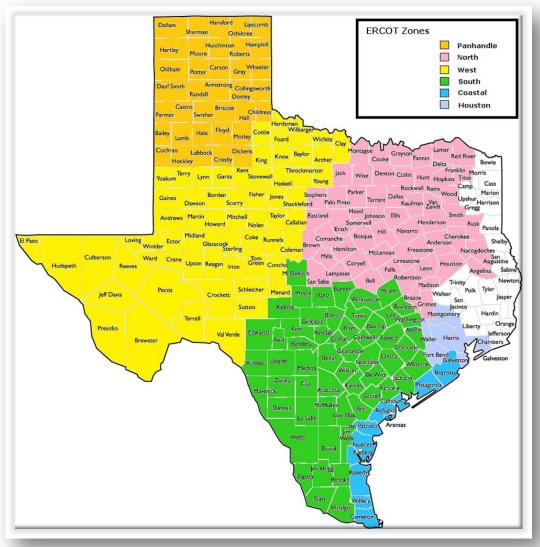


#### Planning Summary – October 2015

- ERCOT is currently tracking 269 active generation interconnection requests totaling 63,026 MW. This includes 24,753 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of more than \$1.02 Billion.
- Transmission Projects endorsed in 2015 total \$413.3 Million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$6.74 Billion.
- Transmission Projects energized in 2015 total about \$652.9 Million.



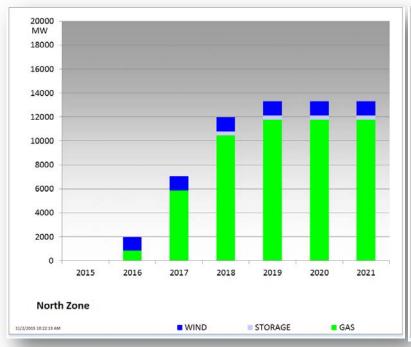
#### Mapping of Counties to ERCOT Zones – October 2015

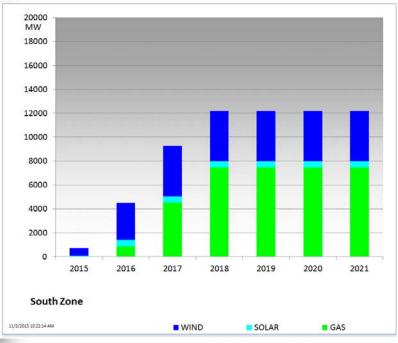




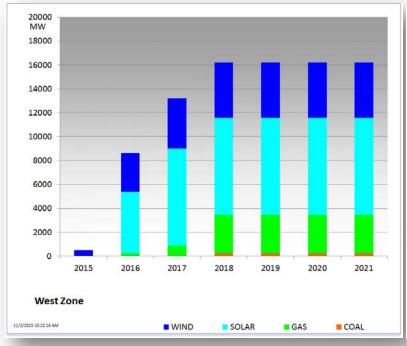
## Cumulative MW Capacity of Interconnection Requests

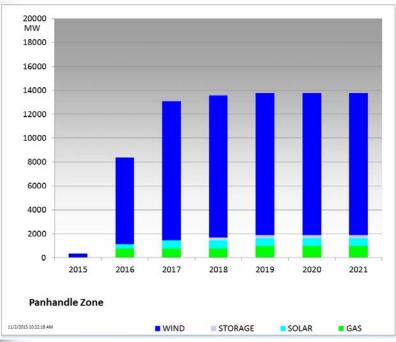
#### by Zone - October 2015





# **Cumulative MW Capacity of Interconnection Requests** by Zone – October 2015

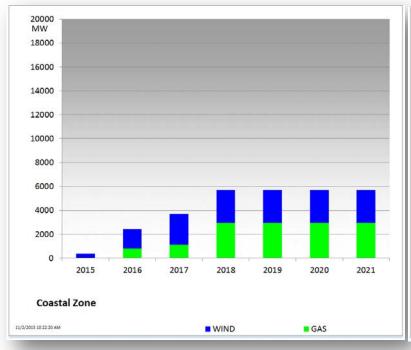


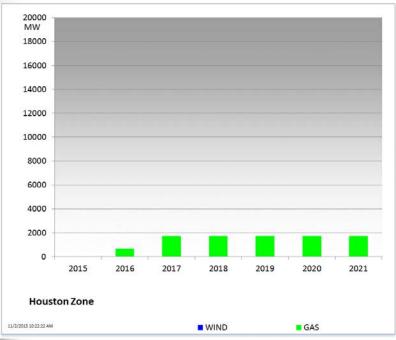




### **Cumulative MW Capacity of Interconnection Requests**

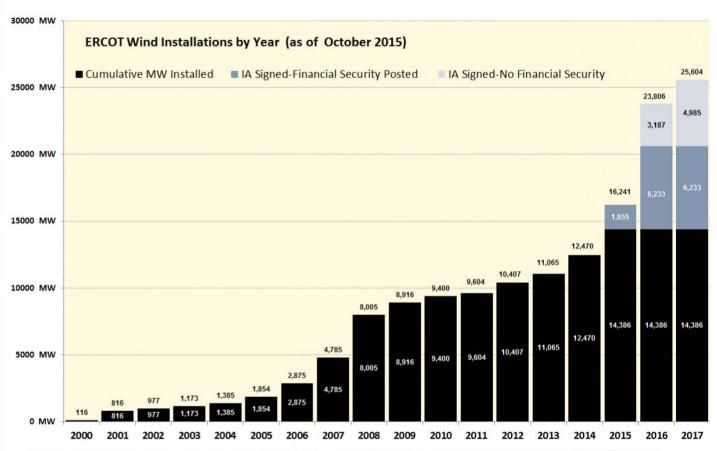
#### by Zone - October 2015







#### Wind Generation – October 2015

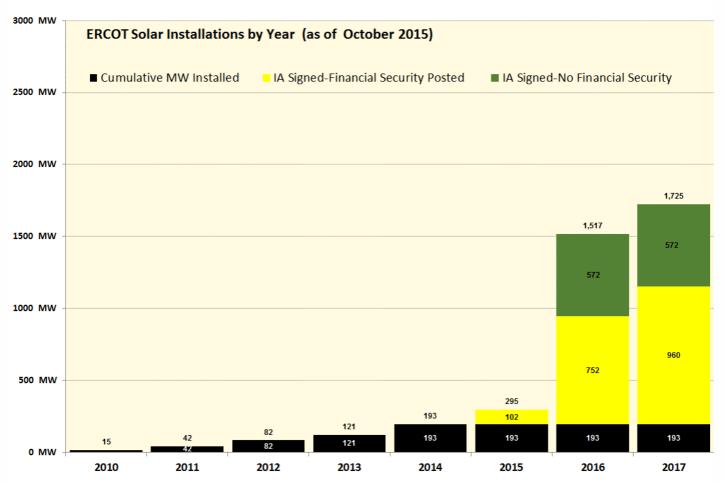


The data presented here is based upon the latest registration data provided to ERCOT by the resource owners and can change without notice. Any capacity changes will be reflected in current and subsequent years' totals. Scheduling delays will also be reflected in the planned projects as that information is received. This chart reflects planned units in the calendar year of submission rather than installations by peak of year shown.

Financial security posted for funding interconnection facilities does not include CREZ security deposits, which are refunded to the Interconnecting Entity when an IA is signed.



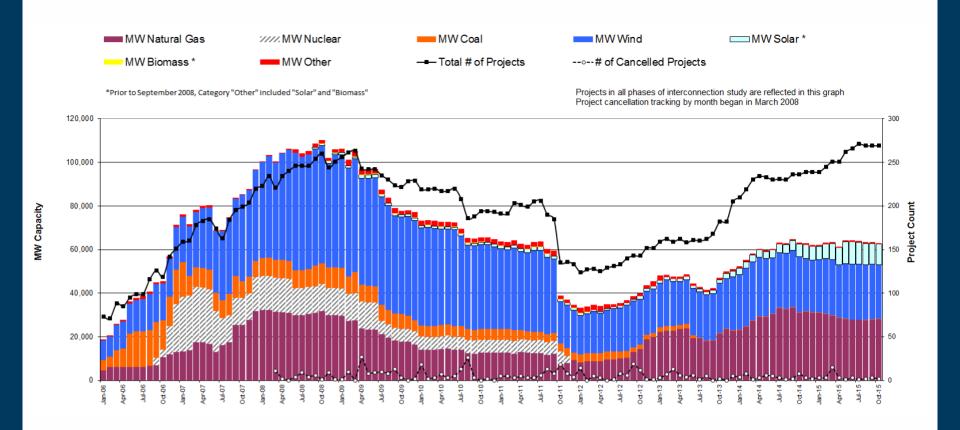
#### **Solar Generation – October 2015**



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.

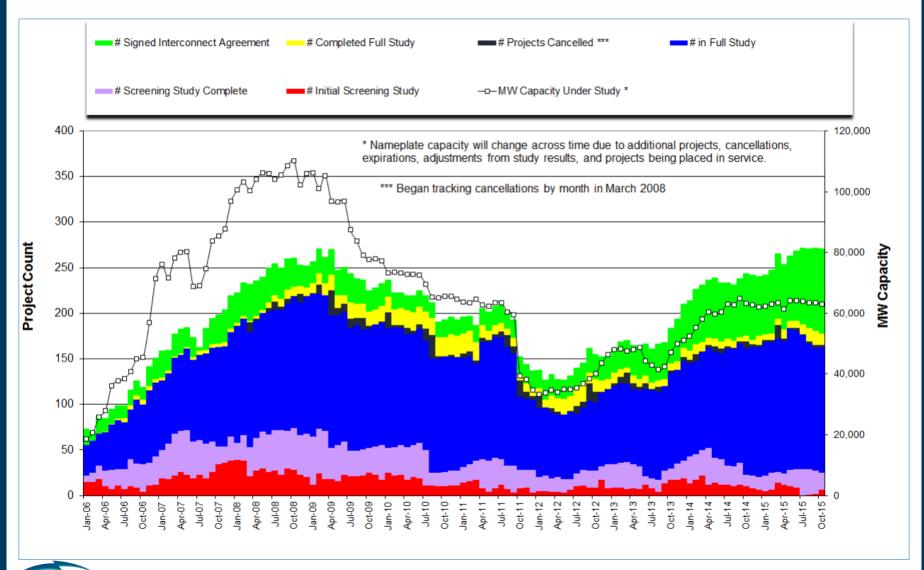


#### **Generation Interconnection Activity by Fuel – October 2015**



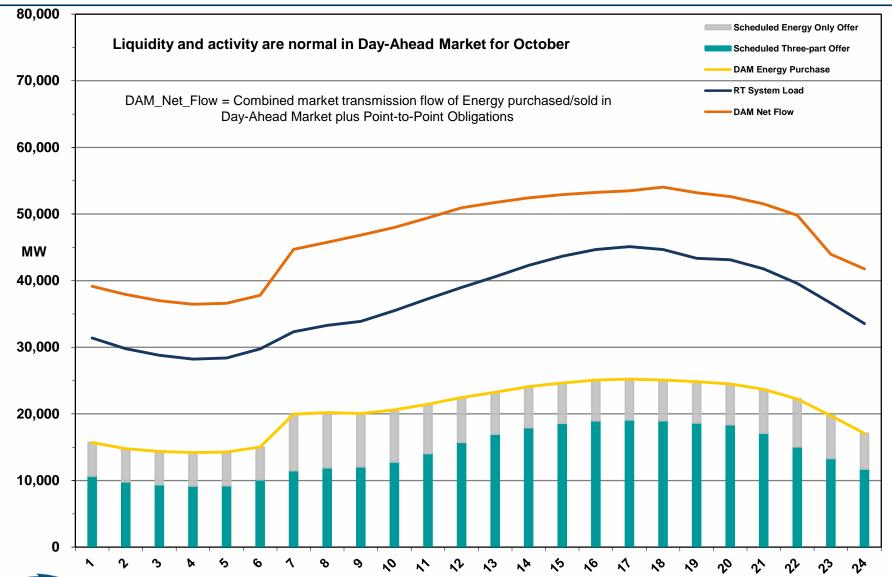


#### **Generation Interconnection Activity by Project Phase – October 2015**



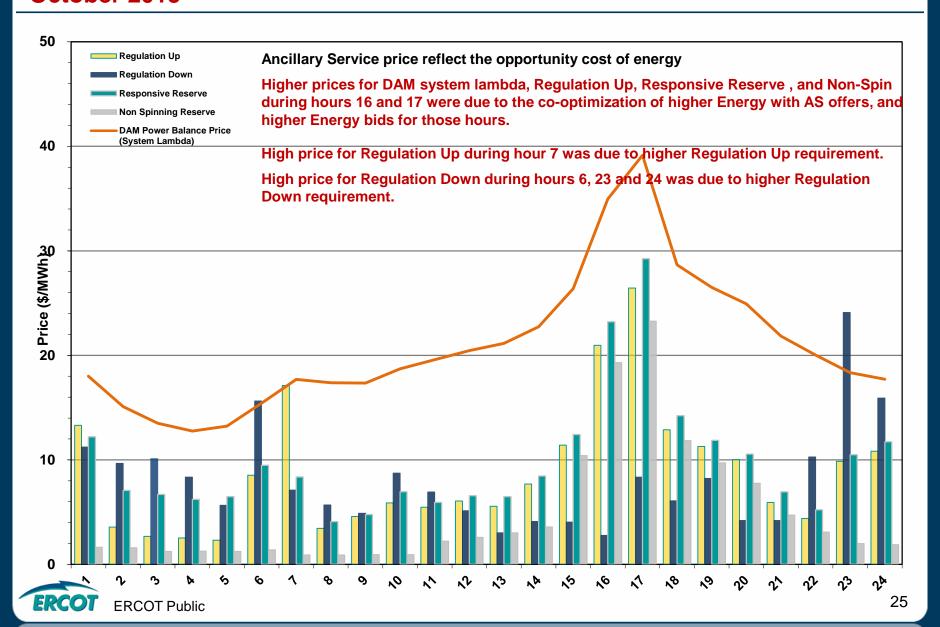
# **Market Operations**

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

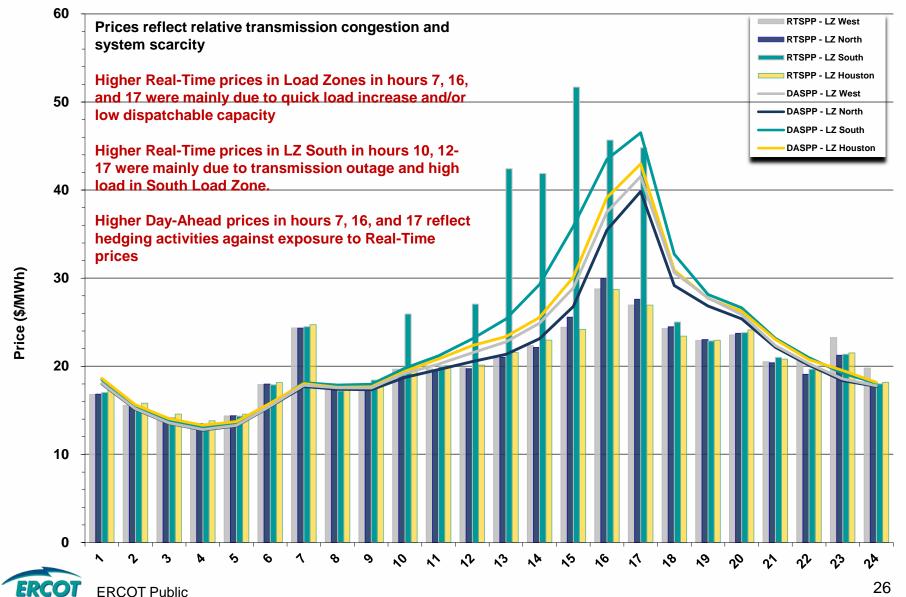




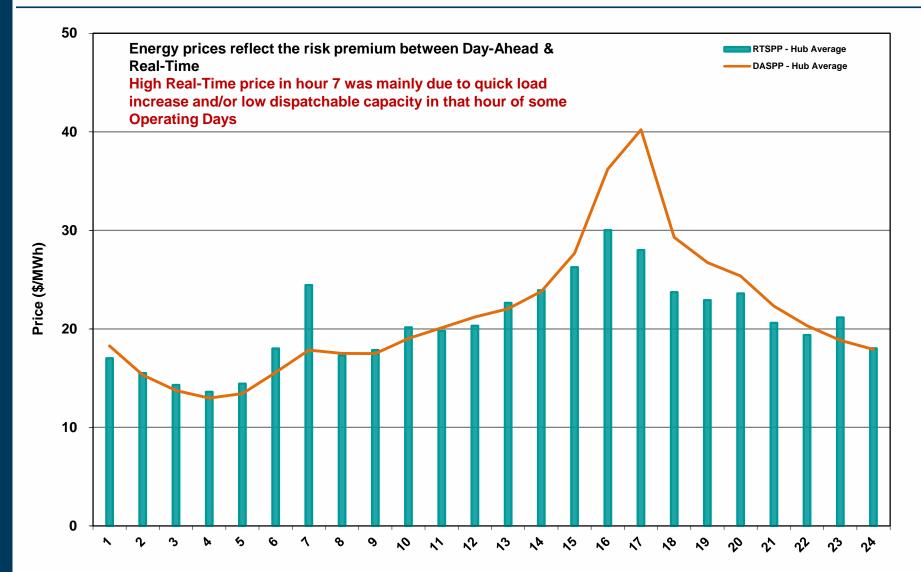
# Day-Ahead Electricity And Ancillary Service Hourly Average Prices – October 2015



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

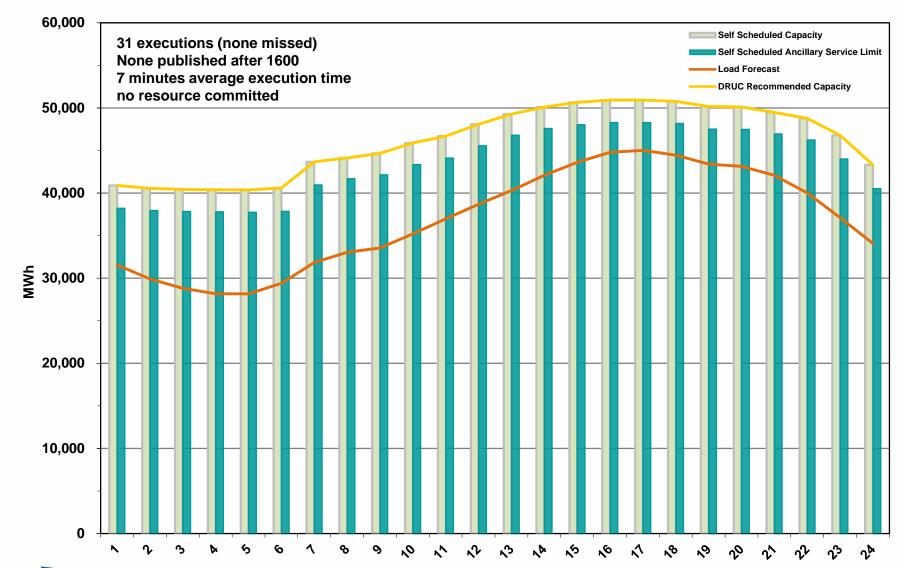


#### Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – October 2015



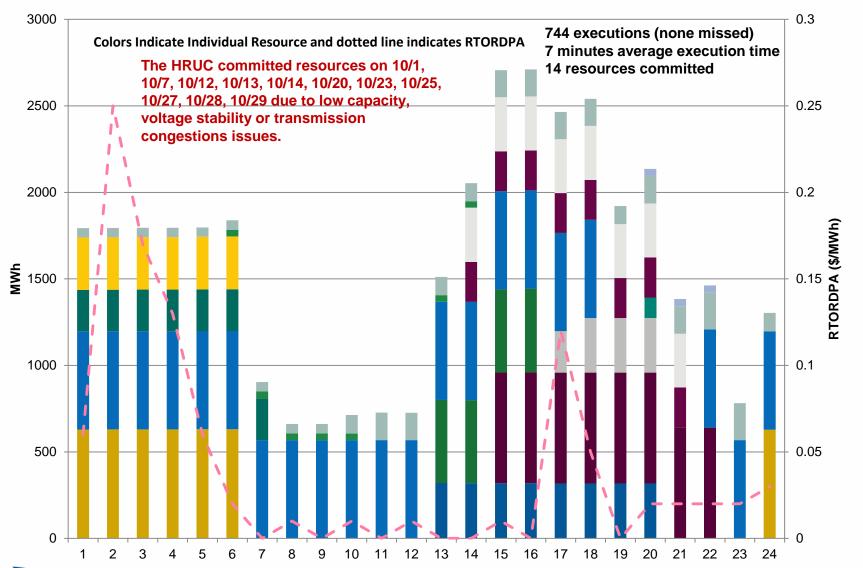


#### **DRUC Monthly Summary (Hourly Average) – October 2015**





# HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) – October 2015



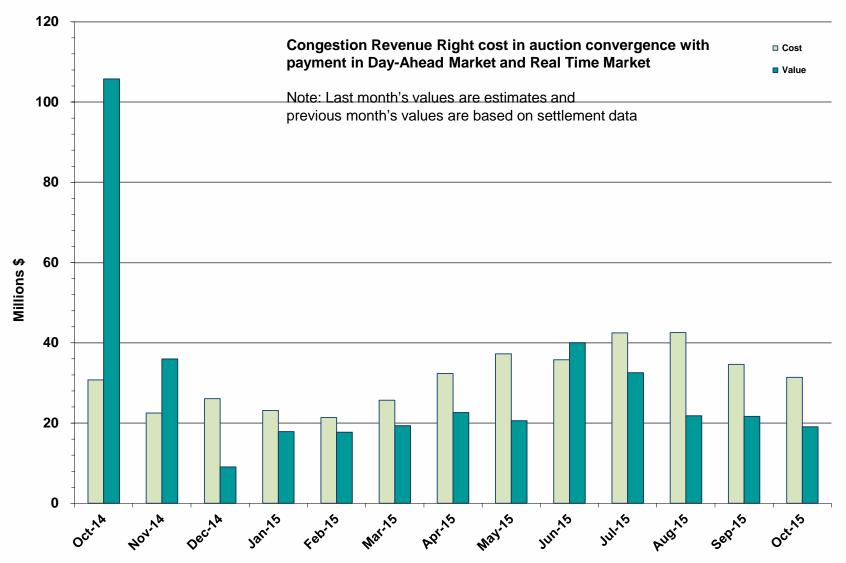


### Non-Spinning Reserve Service Deployment – October 2015

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
10/22/2015 14:13	10/22/2015 20:50	3.75	95	Local Congestion



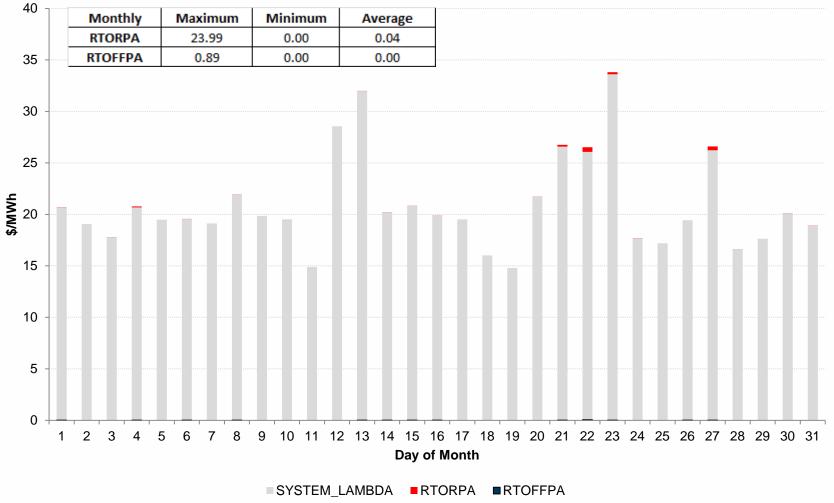
### **CRR Price Convergence – October 2015**





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

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





### **ERS Procurement for October 2015 – January 2016**

	ВН1	BH2	ВН3	NBH
Non Weather-Sensitive ERS-10 MW	372.082	416.611	390.329	349.300
Non Weather-Sensitive ERS-30 MW	546.023	563.297	550.152	433.297
Total MW Procured	918.105	979.908	940.481	782.597
Clearing Price	\$14.46	\$2.59	\$14.00	\$3.21

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

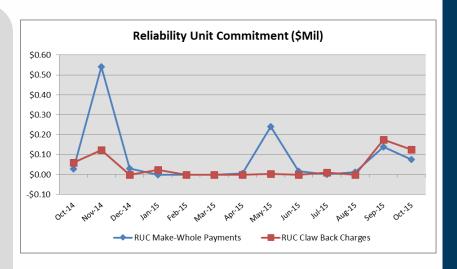
HE 1700 through 2000, Monday thru Friday except ERCOT Holidays

All other hours



### **Reliability Services – October 2015**

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.08)
RUC Clawback Charges	\$0.13
RUC Commitment Settlement	\$0.05
RUC Capacity Short Charges	\$0.08
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.08
RUC Decommitment Payments	\$0.00



RUC Make-Whole Payments were \$0.08M in October 2015. RUC Clawback Charges were \$0.13M.

There was \$0.13M allocated directly to load in October 2015, compared to:

- \$0.17M in September 2015
- \$0.06M in October 2014



### **Capacity Services – October 2015**

Capacity Services	\$ in Millions
Regulation Up Service	\$2.97
Regulation Down Service	\$2.96
Responsive Reserve Service	\$18.45
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	\$31.85

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

October 2015 cost was \$31.85M, compared to:

- A charge of \$19.16M in September 2015
- A charge of \$41.72M in October 2014



### **Energy Settlement – October 2015**

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$351.30
Point to Point Obligation Purchases	\$18.94
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$347.26)
Day-Ahead Congestion Rent	\$22.98
Day-Ahead Market Make-Whole Payments	(\$0.08)

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$310.85)
Energy Imbalance at a Load Zone	\$475.91
Energy Imbalance at a Hub	(\$147.30)
Real Time Congestion from Self Schedules	\$3.05
Block Load Transfers and DC Ties	(\$0.84)
Impact to Revenue Neutrality	\$19.97
Emergency Energy Payments	(\$0.03)
Base Point Deviation Charges	\$0.22
Real-Time Metered Generation (MWh in millions)	27.40



# Congestion Revenue Rights (CRR) – October 2015

	\$ in Millions
Annual Auction	(\$22.06)
Monthly Auction	(\$5.32)
Total Auction Revenue	(\$27.38)
Day-Ahead CRR Settlement	(\$19.07)
Day-Ahead CRR Short-Charges	\$0.05
Day-Ahead CRR Short-Charges Refunded	(\$0.05)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
Total CRR Funding	(\$19.07)
Day-Ahead Point to Point Obligations Settlement	\$18.94
Real-Time Point to Point Obligation Settlement	(\$23.21)
Net Point to Point Obligation Settlement	(\$4.27)

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 credit of \$4.27M compared to a net credit of \$3.63M last month.



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

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$3.95
CRR PTP Option Award Charges	\$0.06
Day-Ahead CRR Short-Charges Refunded	(\$0.05)
Load Allocated CRR Amount	(\$3.96)
Total Fund Amount	\$10.00

ERCOT implemented the rolling CRR Balancing Account Fund beginning with Operating Month December 2014.

In the month of October 2015, the fund cap remained at \$10M and excess funds of \$3.96M were allocated to Load.



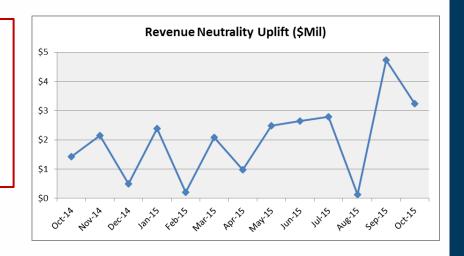
# **Revenue Neutrality – October 2015**

Revenue Neutrality Settlement	\$ in Millions			
Real-Time Point to Point Obligation Settlement				
Real-Time Point to Point Options and Options with Refund Settlement				
Real-Time Energy Imbalance Settlement				
Real-Time Congestion from Self-Schedules Settlement	\$3.05			
DC Tie & Block Load Transfer Settlement				
Charge to Load	\$3.25			

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

October 2015 was a charge of \$3.25M, compared to:

- \$4.74M charge in September 2015
- \$1.42M charge in October 2014





### Real-Time Ancillary Service Imbalance (ORDC) – October 2015

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance Payment Amount	(\$34.35)
Load Allocated AS Imbalance Revenue Neutrality Amount	\$34.35
Total Charges	\$34.35

In October 2015, total credits to QSEs w/an Ancillary Service Imbalance were \$34,352, while total charges in September 2015 were \$250,392.

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

All of the 31 days were settled as a net credit to QSEs w/ an Ancillary Service Imbalance and as a charge to QSEs representing load.

The highest payment to QSEs w/an Ancillary Service Imbalance occurred on October 22<sup>nd</sup> in the amount of \$12,875.



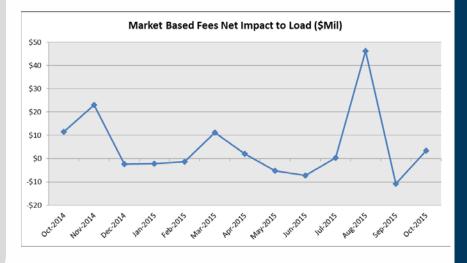
### **Net Allocation to Load – October 2015**

Market-Based Allocation	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$27.38)
Balancing Account Proceeds Settlement	(\$3.96)
Net Reliability Unit Commitment Settlement	(\$0.13)
Ancillary Services Settlement	\$31.85
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$3.25
Emergency Energy Settlement	\$0.03
Base Point Deviation Settlement	(\$0.22)
ORDC Settlement	\$0.03
Total	\$3.47
Fee Allocation	
ERCOT Administrative Fee Settlement	\$12.78
Net Allocated to Load	\$16.25

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

October 2015 was a charge of \$16.25M, compared to:

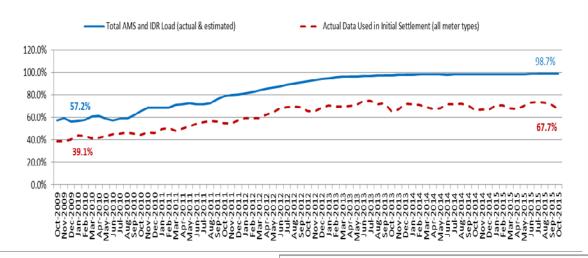
- A charge of \$4.18M in September 2015
- A charge of \$24.26M in October 2014





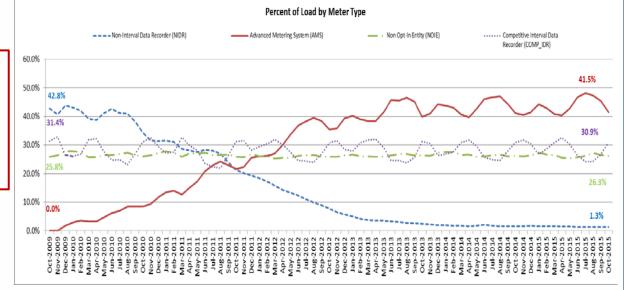
# **Advanced Meter Settlement Impacts – October 2015**





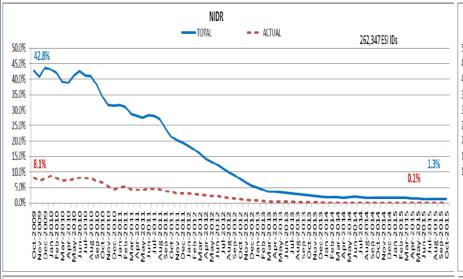
October 2015: At month end, settling 6.8M ESIIDs using Advanced Meter data.

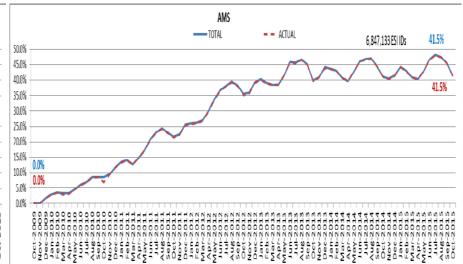
October 2015: 98.7% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

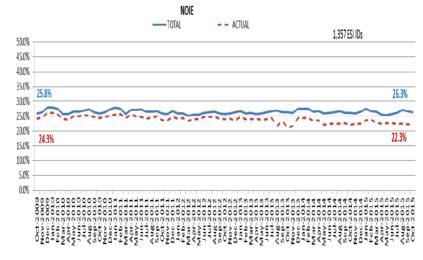


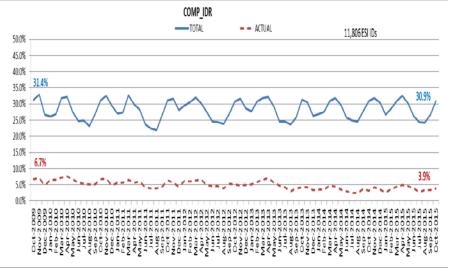


# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – October 2015











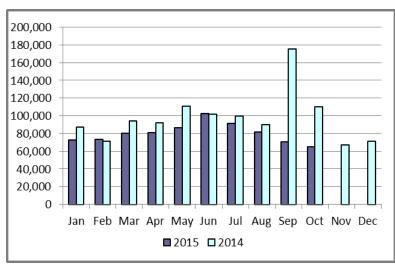
# **Retail Transaction Volumes – Summary – October 2015**

	Year-	To-Date	Transactions Received			
Transaction Type	October 2015 October 2014		October 2015	October 2014		
Switches	804,924	1,031,394	65,276	110,465		
Acquisition	0	0	0	0		
Move - Ins	2,231,597	2,298,612	215,908	226,283		
Move - Outs	1,144,087	1,145,859	109,578	111,857		
Continuous Service Agreements (CSA)	437,289	543,567	34,420	45,039		
Mass Transitions	0	5,614	0	0		
Total	4,617,897	5,025,046	425,182	493,644		



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

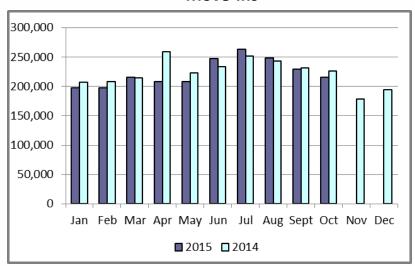
#### **Switches/Acquisitions**



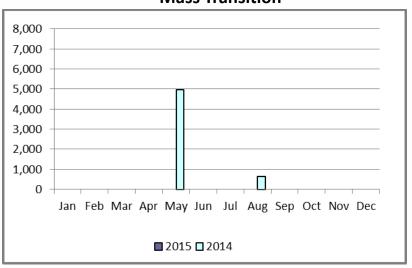
#### **Move-Outs**



#### Move-Ins

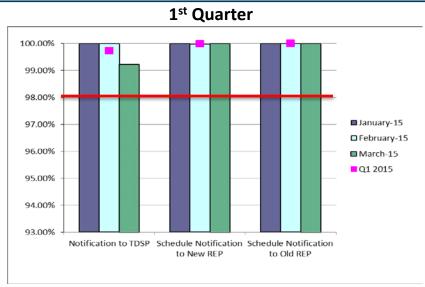


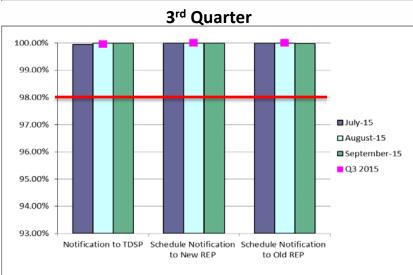
#### **Mass Transition**

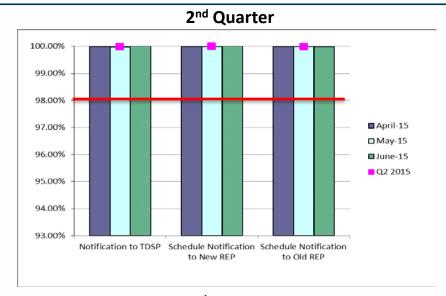


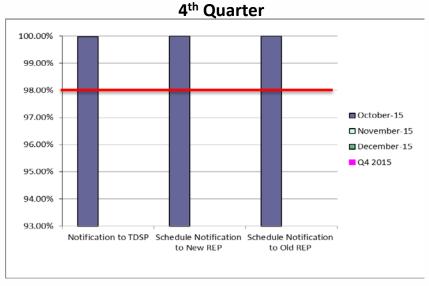


### Retail Performance Measures – Switch – October 2015



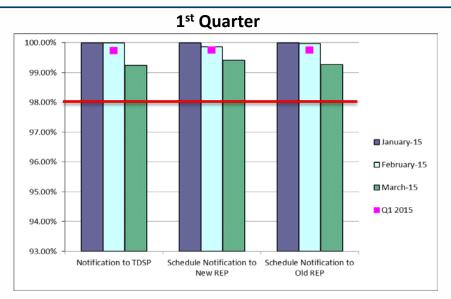


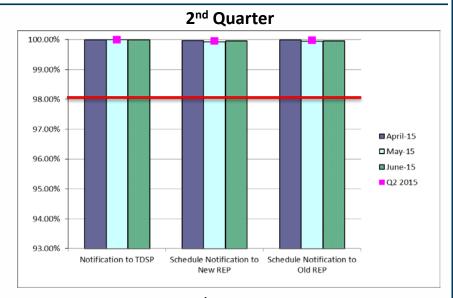


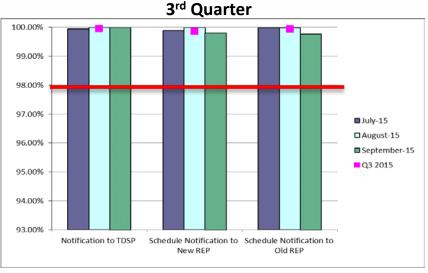


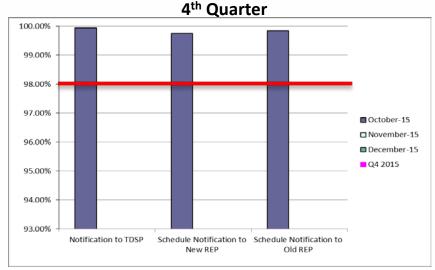


### Retail Performance Measures (Same Day Move-In) - October 2015



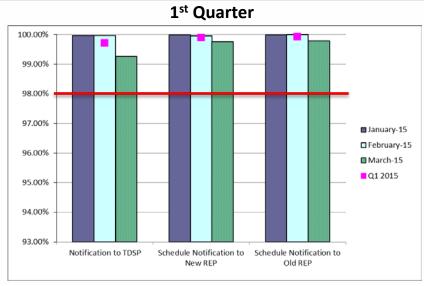


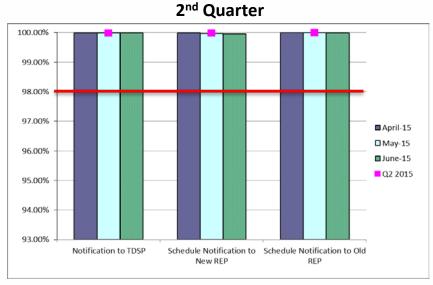




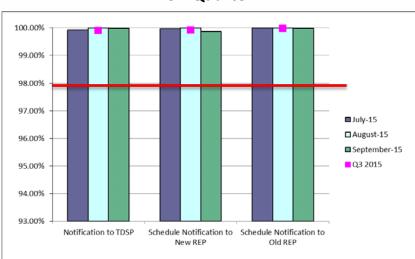


### Retail Performance Measures (Standard Move-In) - October 2015

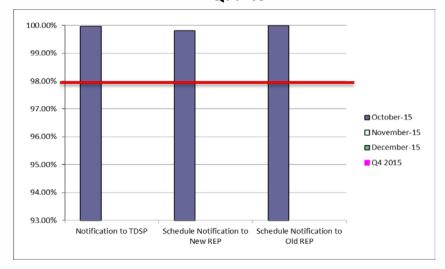








#### 4<sup>th</sup> Quarter





# **Projects Report**

Impact Metric Tolerances	2015 Project Funding	_	015 Portfolio nding Estimate	
Unfavorable variances are represented as negative numbers within the	Projects In Flight/On Hold (Cou	\$	23,944,938	
report Green = No more than 4.9% unfavorable variance	Projects Not Yet Started (Count = 7)		\$	40,003
- Yellow = Unfavorable variance between 4.9% and 9.9% - Red = Unfavorable variance more than 9.9%	Projects Completed (Count = 37	\$	3,480,487	
	Spending Reductions Required to Maintain Capital Budget		\$	(5,815,428)
	TOTAL		\$	21,650,000

Project Number	Projects in Initiation Phase (Count = 11)
DC4	DC4 - Compute DB Inf Install and Migration
Various	2015 CMM NPRRs
NPRR419	Revise Real Time Energy Imbalance and RMR Adjustment Charge
NPRR439	Updating a Counter-Party's Available Credit Limit for Current Day DAM
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments - Phase 1b / 2
NPRR519	Exemption of ERS-Only QSEs from Collateral and Capitalization Requirements
NPRR683	Revision to Available Credit Limit Calculation
170-03	ECAP - Enterprise Content Management System (Proof of Concept)
170-04	ECAP - ERCOT Information Governance and Taxonomy
180-01	Mobile Device Management (MDM) – GEMS
181-01	CRR Framework Upgrade

Footnotes
<ul> <li>1 - One or more phases took longer than expected, resulting in additional funding and/or time required</li> <li>2 - One or more phases required more labor than expected, resulting in additional funding and/or time required</li> </ul>
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
required budget estimation before full requirements were known. Additional effort needed, resulting in additional fun
NA - Metric not calculated because:

- it is reported at the parent project level, or

- it is an administrative project

Project Number	Projects in Planning Phase (Count = 13)	Baseline Phase Start			Scheduled Phase Finish	Schedule Impact		Bu	dget Impact
106-01	MP Online Data Entry - Ph 1	10/9/2013	3/5/2014	TBD	10/8/2015	4	-395%		0%
141-01	Production Virtualization	11/6/2014	11/18/2015	TBD	11/18/2015		0%		0%
158-01	Move iTron LF Application to High Availability Environment	1/14/2015	6/19/2015	TBD	1/28/2016	4	-142%		76%
DC4	DC4 Program Control	9/9/2015	3/30/2016	TBD	3/30/2016		0%		5%
169-01	Short Circuit Ratio Functionality	4/6/2015	9/16/2015	TBD	11/4/2015	1	-30%		21%
172-01	Physical Security Project #2	8/27/2015	6/8/2016	TBD	6/8/2016		0%		0%
173-01	ERCOT Flight Certification Website	7/23/2015	12/11/2015	TBD	12/16/2015		-3%		11%
174-01	2015 Outage Scheduler Enhancements	9/9/2015	11/11/2015	TBD	11/11/2015		0%		2%
177-01	Cyber Security Project #19	10/19/2015	12/18/2015	TBD	12/4/2015		23%		-2%
179-01	Infoblox Hardware Refresh	10/14/2015	2/3/2016	TBD	2/3/2016		0%		0%
TBD	Enterprise Resource Planning	8/5/2015	9/2/2015	TBD	11/20/2015	1	-282%		0%
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	9/9/2015	11/11/2015	TBD	11/11/2015		0%	NA	See #174-01
SCR783	Outage Scheduler Enhancements – Group 2, Usability and Filtering Enhancements	9/9/2015	11/11/2015	TBD	11/11/2015		0%	NA	See #174-01



Project Number	Projects in Execution Phase (Count = 17)	Baseline Phase Start	Baseline Go- Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Schedule Impact		Schedule Impact		Schedule Impact Budget Imp	
052-01	EMS Upgrade	9/24/2014	5/25/2016	5/26/2016	11/1/2016		0%		6%				
065-01	NMMS Upgrade	12/17/2014	5/27/2016	6/15/2016	7/28/2016		-3%		-4%				
116-01	Collage Replacement	2/6/2014	9/22/2014	2/1/2016	2/22/2016	4	-217%	2	-113%				
120-01	IT Production Hardening	5/21/2015	4/1/2016	3/31/2016	4/25/2016		0%		18%				
143-01	OSI Pi Visualization Enhancements	1/16/2015	6/19/2015	11/15/2015	11/30/2015	1	-96%		0%				
144-01	OC-48 Replacement with DWDM	2/4/2015	12/22/2015	12/22/2015	1/26/2016		0%	1	-15%				
161-01	NPRRs 588 and 615	9/16/2015	2/19/2016	2/19/2016	3/30/2016		0%		7%				
165-00	Capital Efficiencies and Enhancements - 2015	1/1/2015	12/31/2015	12/31/2015	12/31/2015		0%		44%				
168-01	Configuration Management System Requirements for CIP v5 Readiness	7/6/2015	12/16/2015	12/16/2015	12/30/2015		0%		8%				
170-01	Enterprise Content Alignment Program	8/26/2015	1/5/2016	1/5/2016	1/5/2016		0%		88%				
171-01	CIP v5 Readiness Project	7/22/2015	4/29/2016	3/31/2016	3/31/2016		10%	2	-13%				
NPRR515	Day-Ahead Market Self-Commitment of Generation Resources	10/5/2015	3/31/2016	3/8/2016	3/8/2016		12%		9%				
NPRR553	Monthly BLT Payment and Charge for Presidio Exception	4/9/2015	2/19/2016	2/19/2016	2/19/2016		0%	NA	See #165-00				
NPRR588	Clarifications for PV Generation Resources	9/16/2015	2/19/2016	2/19/2016	3/30/2016		0%	NA	See #161-01				
NPRR615	PVGR Forecasting	9/16/2015	2/19/2016	2/19/2016	3/30/2016		0%	NA	See #161-01				
NPRR680	Allow QSEs to Self-Arrange AS Quantities Greater Than Their AS Obligation	10/28/2015	12/11/2015	12/11/2015	12/18/2015		0%		20%				
NPRR686	Changing the IRR Forecast from Next 48 Hours to Next 168 Hours	9/16/2015	2/19/2016	2/19/2016	3/30/2016		0%						
Project		Baseline	Baseline Go-	Actual	Scheduled								
Number	Projects in Stabilization (Count = 9)	Execution Phase Start	Live Target	Go-Live Date	Execution Phase Finish	Sche	dule Impact	Impact Budget Impac					
NPRR556	Resource Adequacy During Transmission Equipment Outage	9/21/2015	10/23/2015	10/23/2015	12/10/2015		0%		3%				
NPRR595	RRS Load Resource Treatment in ORDC	8/5/2015	10/23/2015	10/22/2015	11/23/2015		1%	NA	See NPRR698				
NPRR698	Clarifications to NPRR595, RRS Load Resource Treatment In ORDC	8/5/2015	10/23/2015	10/22/2015	11/23/2015		1%		4%				
NPRR706	Restore the Ability to Use Physical Responsive Reserve Capability as an Indicator of Available Frequency-Responsive Capacity	8/5/2015	10/23/2015	10/22/2015	11/23/2015		1%		See NPRR698				
NPRR710	Removal of ORDC Phase 2 Language and Modification to HASL Calculation	8/5/2015	10/23/2015	10/22/2015	11/23/2015		1%		See NPRR698				
134-01	Privileged Account Management	4/1/2015	9/30/2015	9/30/2015	10/30/2015		0%		17%				
155-01	Replace N2N System	2/5/2015	5/14/2015	10/8/2015	11/16/2015	2	-150%	2	-22%				
156-01	Symposium Call Center Replacement	2/5/2015	5/19/2015	8/21/2015	10/14/2015	2	-91%	2	-22%				
163-01	Cyber Security Project #10	7/1/2015	9/15/2015	9/22/2015	12/2/2015	1	-9%		22%				
Project Number	Projects On Hold (Count = 5)	Forecast Start Date	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Bu	ıdget 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					
NPRR573	Alignment of PRC Calculation	TBD	TBD	TBD	TBD	3		3					
141 111070	) 9												
129-01	Access and Roles Management	7/1/2014	10/1/2014	TBD	TBD	3		3					



Project Number	Projects Completed (Count =37)	Baseline Execution Phase Start	Baseline Go- Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status		То	otal Variance
NPRR467	Balancing Account Resettlement Due to DAM Resettlement	7/1/2014	12/6/2014	12/6/2014	6/12/2015		0%	NA	See #10052
NPRR500	Posting of Generation that is Off but Available	1/7/2015	2/6/2015	2/6/2015	3/27/2015		0%		48%
NPRR543	Message for Confirmed E-Tags	3/18/2015	6/23/2015	6/25/2015	7/9/2015		-2%		19%
NPRR559	Revisions to MCE Calculation	1/29/2015	6/13/2015	6/13/2015	7/10/2015		0%	NA	See #154-01
NPRR580	Establishment of a Rolling CRR Balancing Account Fund	7/1/2014	12/6/2014	12/6/2014	6/12/2015		0%	NA	See #10052
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%
NPRR589	Ancillary Service Offers in the Supplemental Ancillary Services Market	3/1/2015	9/25/2015	9/30/2015	9/30/2015		-2%		
NPRR597	Utilize Initial Estimated Liability (IEL) Only During Initial Market Activity	1/29/2015	6/13/2015	6/13/2015	7/10/2015		0%	NA	See #154-01
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	7/10/2015		0%	NA	See #154-01
NPRR626	Reliability Deployment Price Adder	1/15/2015	6/28/2015	6/26/2015	9/7/2015		1%	NA	See #149-01
NPRR639	Correction to Minimum Current Exposure	1/29/2015	6/13/2015	6/13/2015	7/10/2015		0%	NA	See #154-01
NPRR645	Real-Time On-Line Capacity Revisions	1/15/2015	6/28/2015	6/26/2015	9/7/2015		1%	NA	See #149-01
NPRR665	As-Built Clarification of Reliability Deployment Price Adder	1/15/2015	6/28/2015	6/26/2015	9/7/2015		1%	NA	See #149-01
NPRR598	Clarify Inputs to PRC and ORDC	1/15/2015	6/28/2015	7/1/2015	7/31/2015		-1%	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	6/26/2015	9/7/2015		1%	NA	See #149-01
SCR771	ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources	4/23/2015	9/9/2015	9/9/2015	9/9/2015		0%	NA	See #165-00
SCR772	New Extract for Five Minute Interval Settlement Data	11/5/2014	2/13/2015	2/12/2015	3/30/2015		1%		19%
SCR775	Posting Results of Real-Time Data in a Display Format	3/31/2015	6/22/2015	6/22/2015	7/20/2015		0%		40%
SCR778	Credit Exposure Calculations for NOIE Options Linked to RTM PTP Obligations	1/29/2015	3/28/2015	3/28/2015	7/10/2015		0%	NA	See #154-01
SCR779	Increase to the CRR Auction Transaction Limit	9/29/2014	6/28/2015	5/27/2015	6/24/2015		11%		-2%
10052_01	Settlement System Upgrade	1/25/2012	12/23/2014	12/6/2014	6/12/2015		1%		-1%
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%		9%
089-01	Information Technology Change Management	10/29/2014	5/1/2015	5/27/2015	6/15/2015	2	-14%	2	-38%
097-01	ABB MMS OS Technology Refresh	8/15/2014	3/26/2015	3/26/2015	5/8/2015		0%		-1%
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%
122-01	Infoblox DNS/DHCP	5/21/2014	11/5/2014	11/20/2014	11/8/2015	1	-8%		2%
127-01	SQL Server 2012 Upgrade / Cluster Consolidation	12/18/2014	7/19/2015	7/19/2015	9/9/2015		0%		14%
130-01	Electronic Crisis Communications Enhancements	6/19/2014	12/12/2014	2/16/2015	6/12/2015	1	-37%	2	-5%
137-01	EIS Reporting and Control Systems Upgrade	8/13/2014	1/15/2015	1/13/2015	2/25/2015		1%		9%
142-01	Implementation of NERC BAL-TRE-001 Regional Standard	1/14/2015	2/16/2015	2/6/2015	3/6/2015		30%		46%
149-01	Market System Enhancements 2015	1/15/2015	6/28/2015	6/26/2015	9/7/2015		1%		16%
150-01	Backup Resiliency	12/17/2014	2/6/2015	2/6/2015	3/2/2015		0%		-3%
153-01	Infrastructure Performance Management	12/22/2014	1/22/2015	2/19/2015	3/2/2015	1	-90%		0%
154-01	2014 CMM NPRRs and SCRs	1/29/2015	6/13/2015	6/13/2015	7/10/2015		0%	1	-5%



Project Number	2015 Projects Not Yet Started (Count = 7)	Forecast Start Date
TBD	CREZ Voltage Control and Coordination - Phase 2	Nov-2015
NPRR617	Energy Offer Flexibility	Nov-2015
NPRR700	Utilizing Actual Fuel Costs in Startup Offer Caps	Nov-2015
TBD	Build Load Models for TSAT	Nov-2015
TBD	Records Management and eDiscovery	Nov-2015
NPRR620	Collateral Requirements for Counter-Parties with No Load or Generation	Dec-2015
NPRR662	Proxy Energy Offer Curves	Dec-2015

