

# ERCOT Monthly Operational Overview (July 2015)

ERCOT Public August 15, 2015

# **Grid Planning & Operations**

#### Summary – July 2015

#### **Operations**

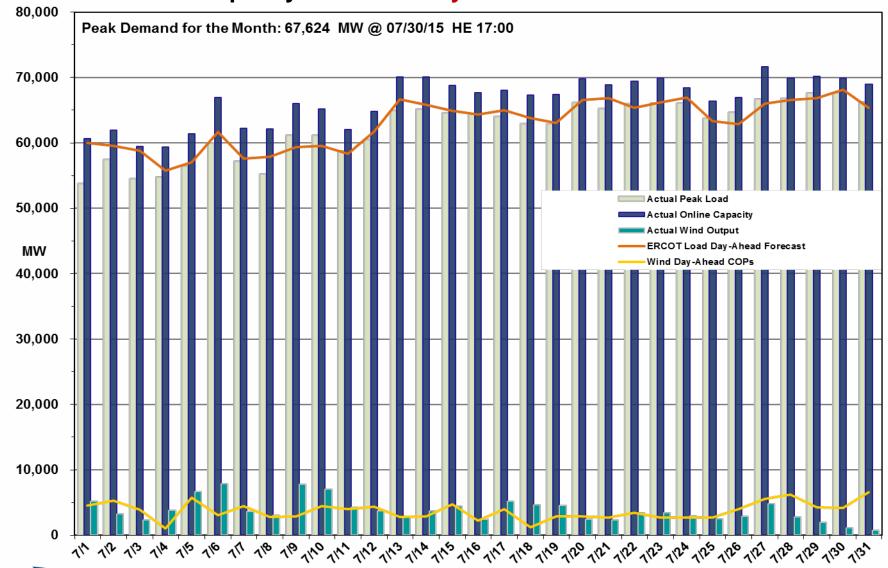
- The peak demand of 67,624 MW on July 30th was less than the mid-term forecast peak of 68,126 MW of the same operating period. In addition, it was greater than the July 2014 actual peak demand of 63,500 MW. The instantaneous peak load on July 30th was 67,716 MW.
- Day-ahead load forecast error for July was 1.89%
- ERCOT issued five notifications
  - Two advisories issued due to Physically Responsive Capability being less than 3,000 MW (7/29 and 7/31)
  - One OCN issued due to a Capacity Insufficiency (7/30)
  - Media appeal issued for energy conservation as a precautionary measure to ensure system reliability due to hot weather causing high ERCOT demands and reduced generation capability due to unplanned generation outages (7/30).
  - One OCN due to the development of a new Generic Transmission Constraint (GTC) due to transmission outages in the region (7/31)

#### **Planning Activities**

- 271 active generation interconnection requests totaling 63,939 MW, including 25,466 MW of wind generation as of July 31, 2015. Five additional requests, yet a decrease of 183 MW, from June 30, 2015.
- 13,424 MW wind capacity in commercial operations on July 31, 2015.

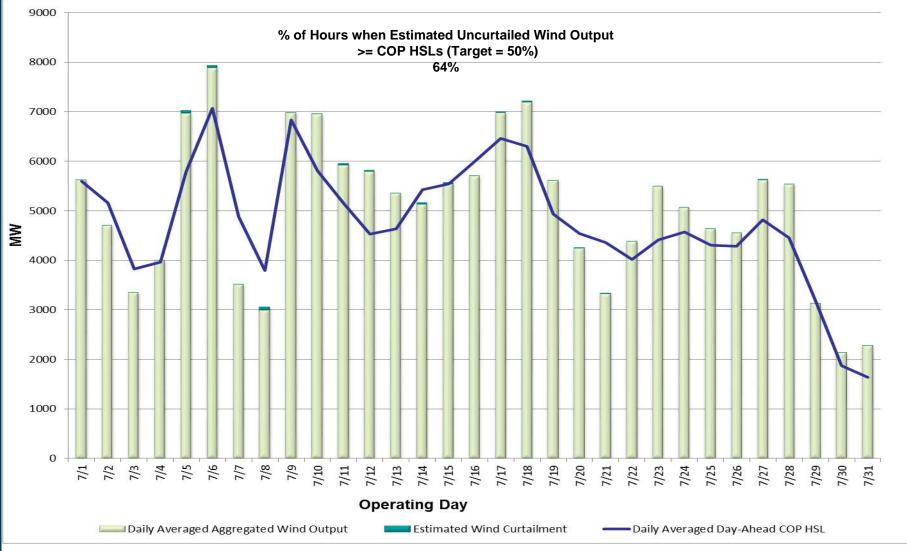


# Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak – July 2015





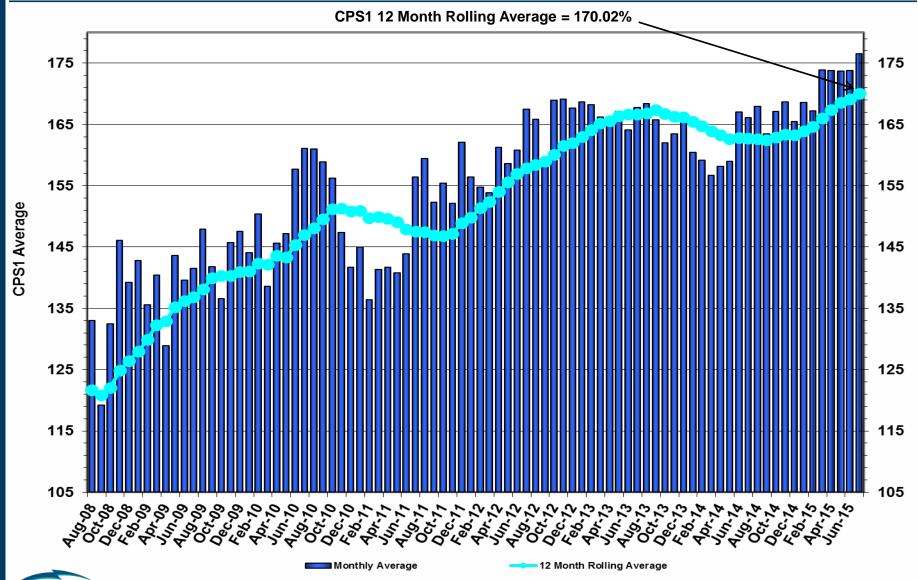
# Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – July 2015





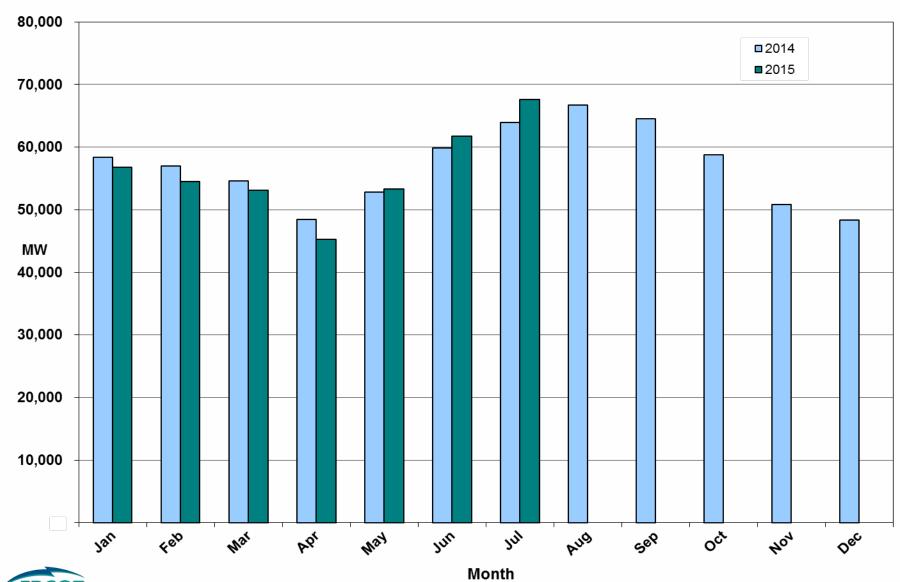
Note: QSEs must use the AWST 50% probability of exceedance forecast as the HSL in their COPs

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

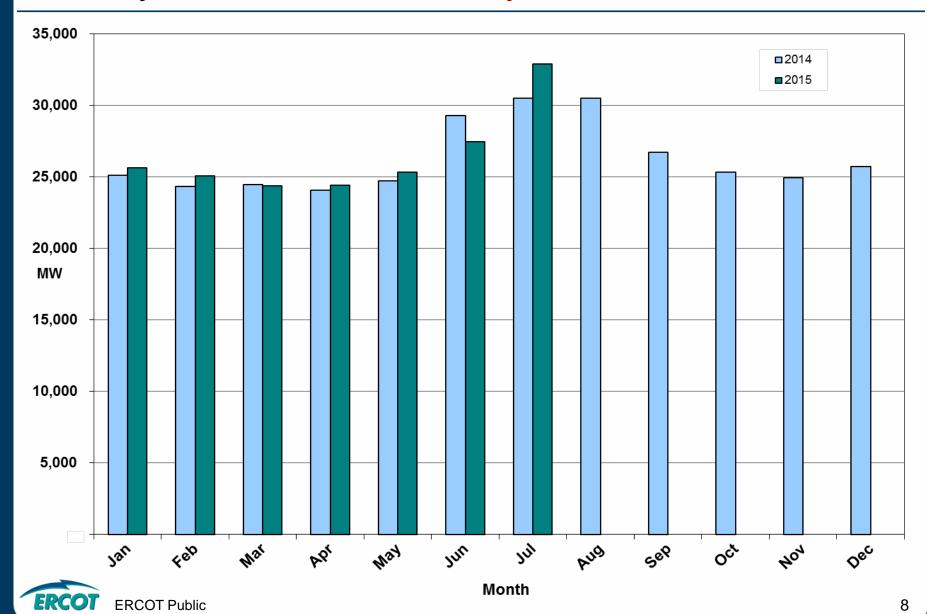




#### **Monthly Peak Actual Demand – July 2015**



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



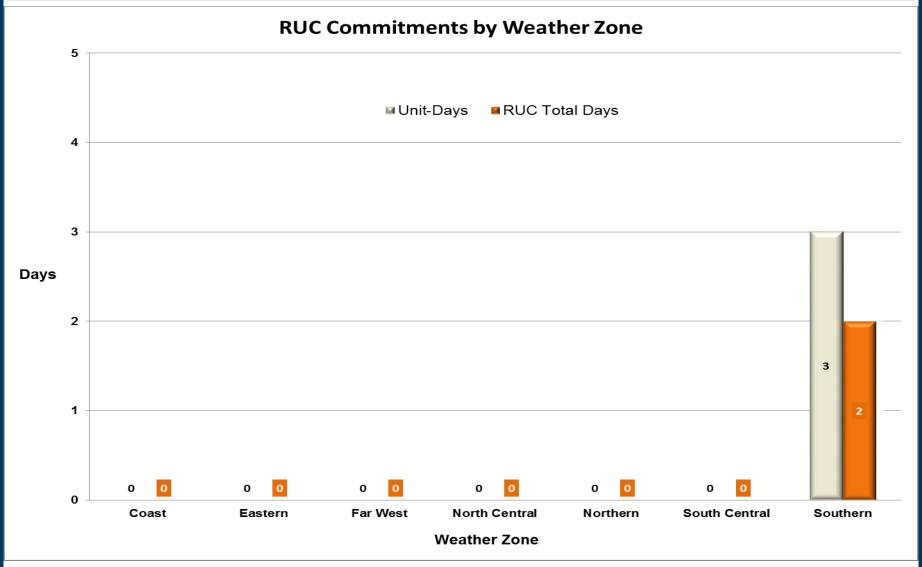
#### **Day-Ahead Load Forecast Performance – July 2015**

# 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	July 2015 MAPE	
Average Annual MAPE	3.02	2.86	2.83	2.99	1.3	<b>39</b>
Lowest Monthly MAPE	2.51	2.07	2.15	1.89	Lowest Daily MAPE	0.50 July – 28
Highest Monthly MAPE	3.49	3.50	3.70	3.81	Highest Daily MAPE	8.29 July – 1



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





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

GTCs	Jul 14 Days GTCs	May 15 Days GTCs	Jun 15 Days GTCs	Jul 15 Days GTCs	Last 12 Months Total Days (Aug 14 – Jul 15)
North – Houston	0	2	0	1	3
Valley Import	0	0	0	0	4
SOP110	0	0	0	0	1
Zorillo - Ajo	-	15	7	13	61
Panhandle	-	-	-	0	0

**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.

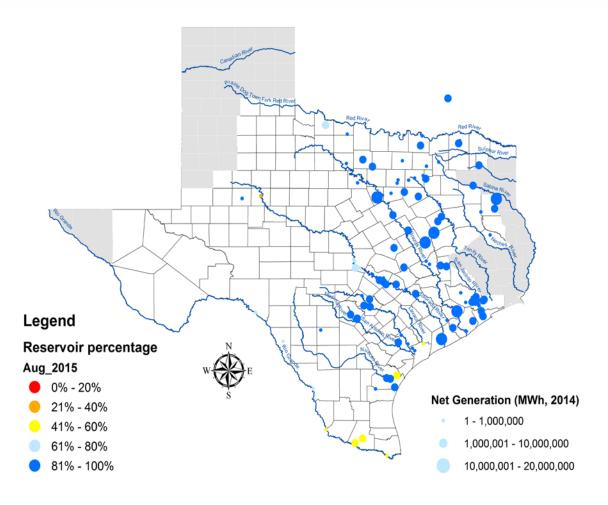


#### **Advisories and Watches – July 2015**

- Two advisories issued due to Physically Responsive Capability being less than 3,000 MW
  - Issued on 7/29 and 7/31
- One OCN issued due to a Capacity Insufficiency
  - Issued on 7/30
- Media Appeal issued for energy conservation as a precautionary measure to ensure system reliability due to hot weather causing high ERCOT demands and reduced generation capability due to unplanned generation outages
  - Issued on 7/30
- One OCN due to the development of a new Generic Transmission Constraint (GTC) due to transmission outages in the region
  - Issued on 7/31



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



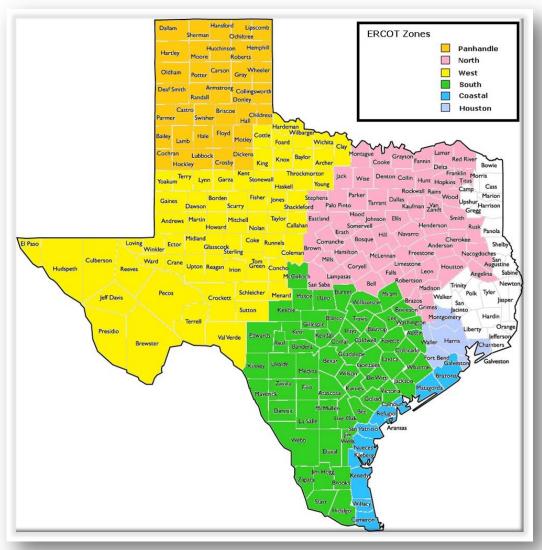


#### **Planning Summary – July 2015**

- ERCOT is currently tracking 271 active generation interconnection requests totaling 63,939 MW. This includes 25,466 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$964.9 Million.
- Transmission Projects endorsed in 2015 total \$319.8 Million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$6.66 Billion.
- Transmission Projects energized in 2015 total about \$429.7 Million.

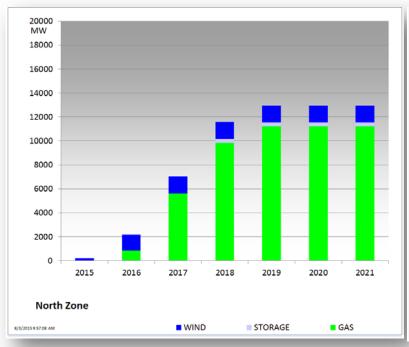


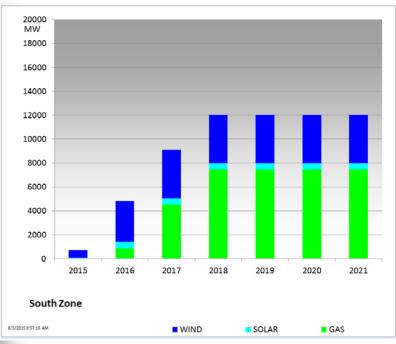
#### **Mapping of Counties to ERCOT Zones – July 2015**



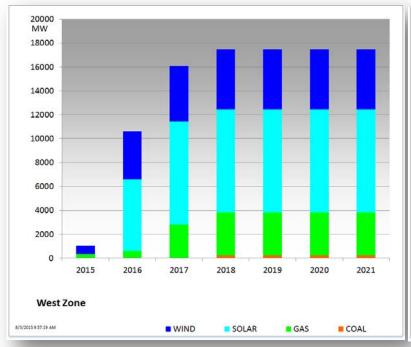


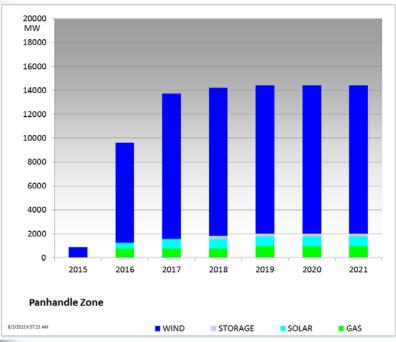
# Cumulative MW Capacity of Interconnection Requests by Zone – July 2015



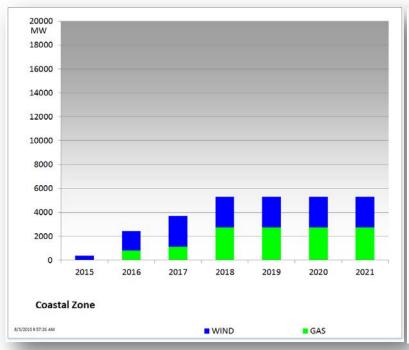


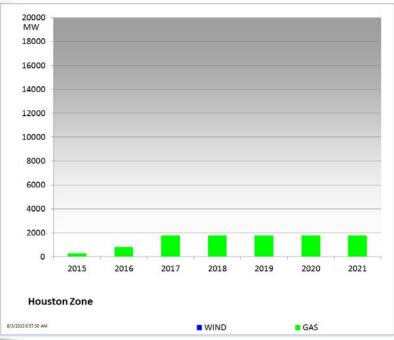
# Cumulative MW Capacity of Interconnection Requests by Zone – July 2015



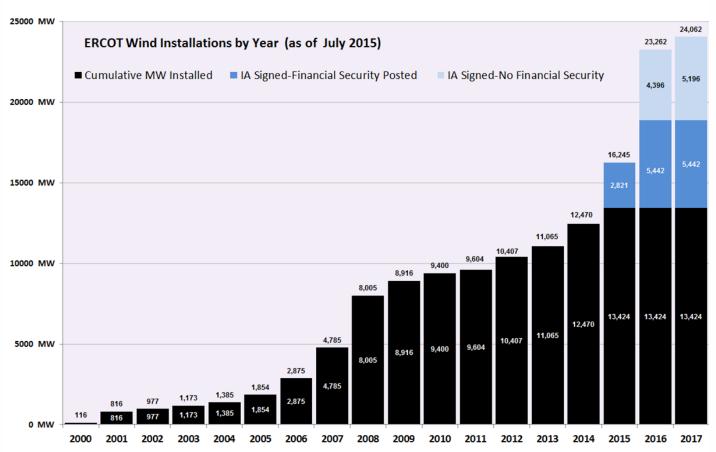


# Cumulative MW Capacity of Interconnection Requests by Zone – July 2015





#### Wind Generation – July 2015

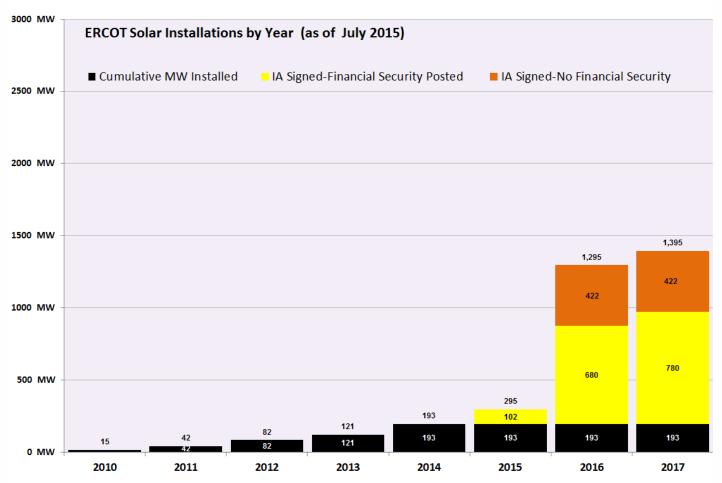


The data presented here is based upon the latest registration data provided to ERCOT by the resource owners and can change without notice. Any capacity changes will be reflected in current and subsequent years' totals. Scheduling delays will also be reflected in the planned projects as that information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



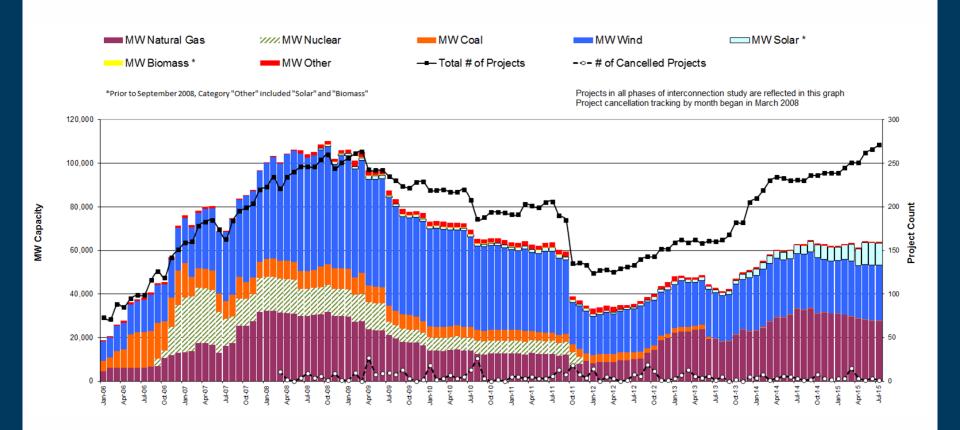
#### **Solar Generation – July 2015**



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.

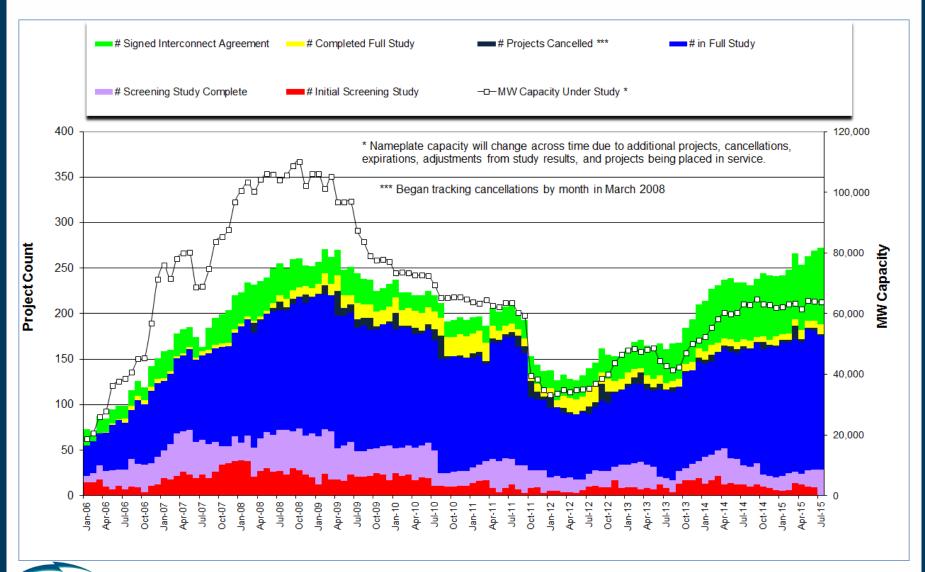


#### **Generation Interconnection Activity by Fuel – July 2015**



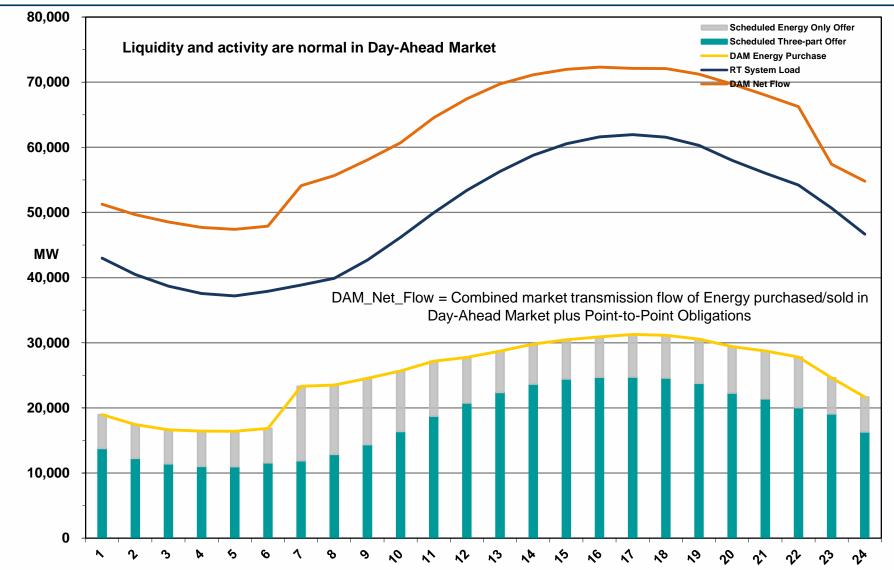


#### **Generation Interconnection Activity by Project Phase – July 2015**



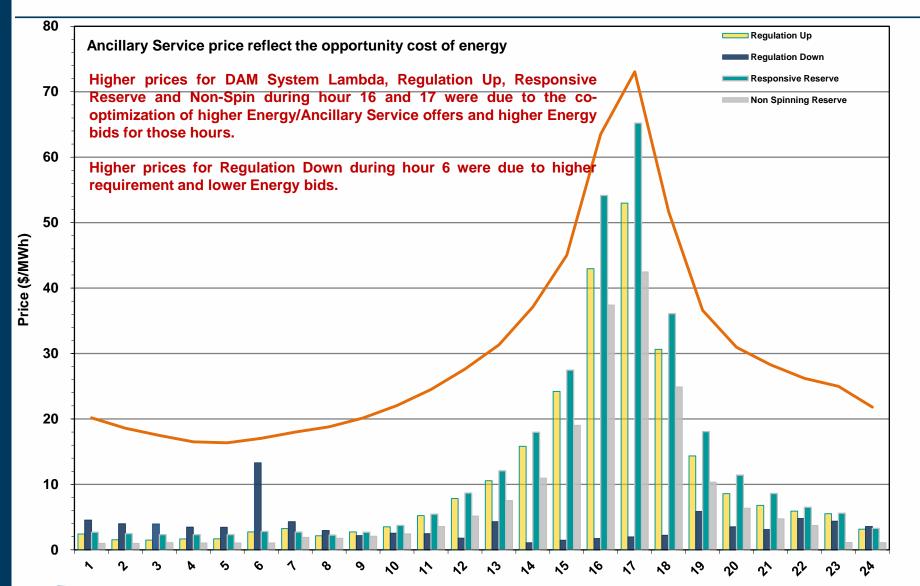
# **Market Operations**

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



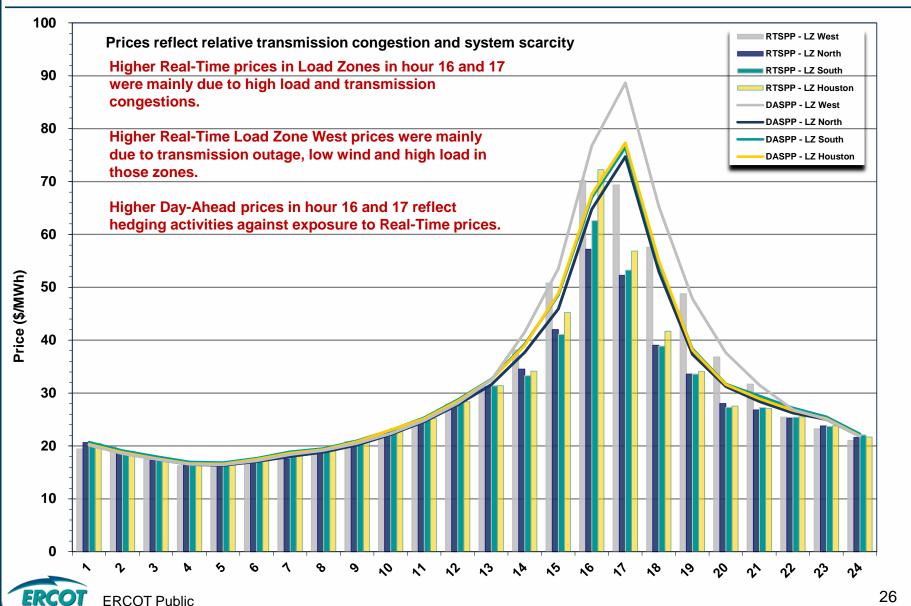


#### Day-Ahead Electricity And Ancillary Service Hourly Average Prices – July 2015

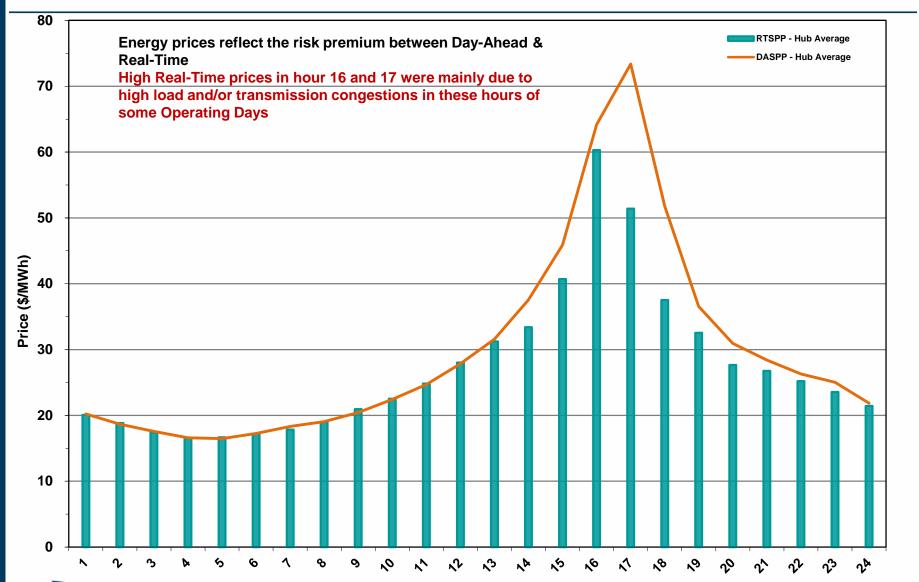




#### Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – July 2015

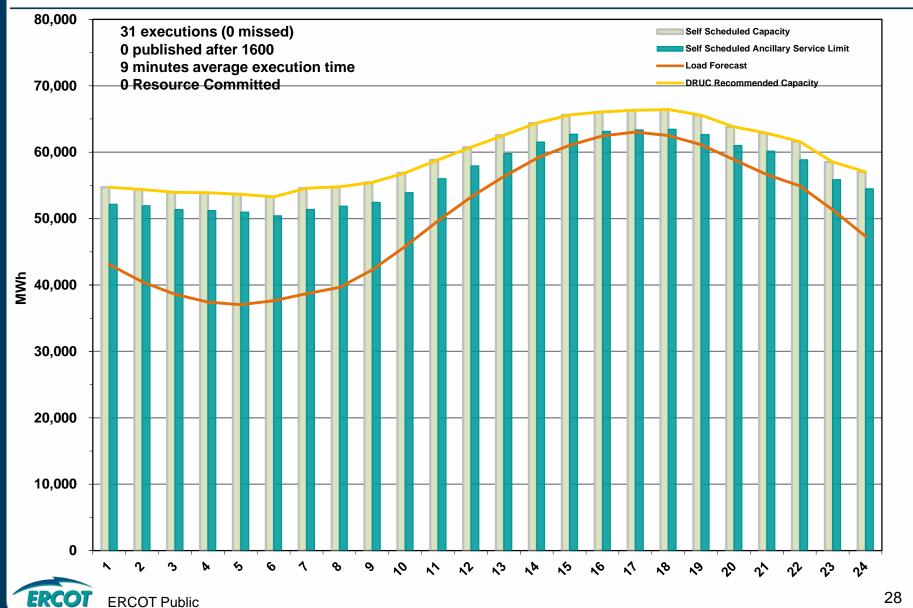


#### Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – July 2015

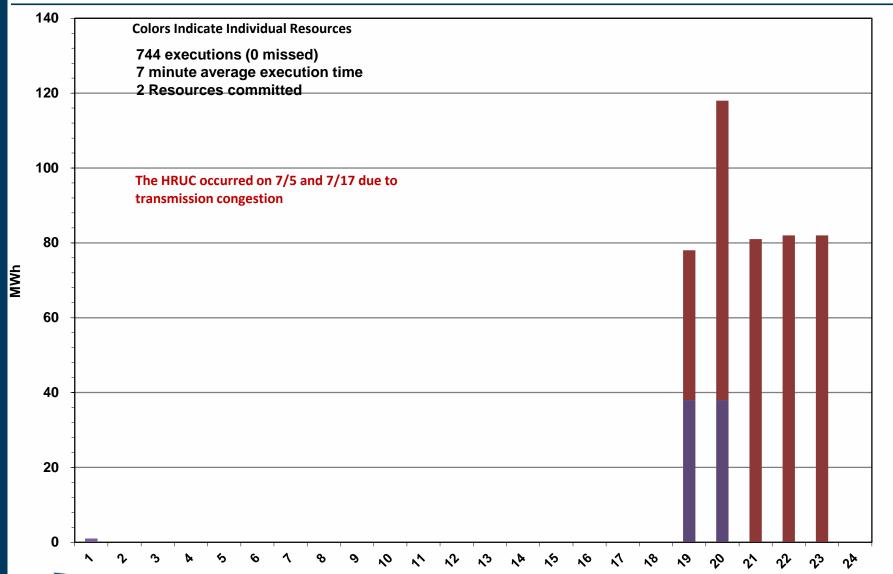




### **DRUC Monthly Summary (Hourly Average) – July 2015**



# **HRUC Monthly Summary – July 2015**



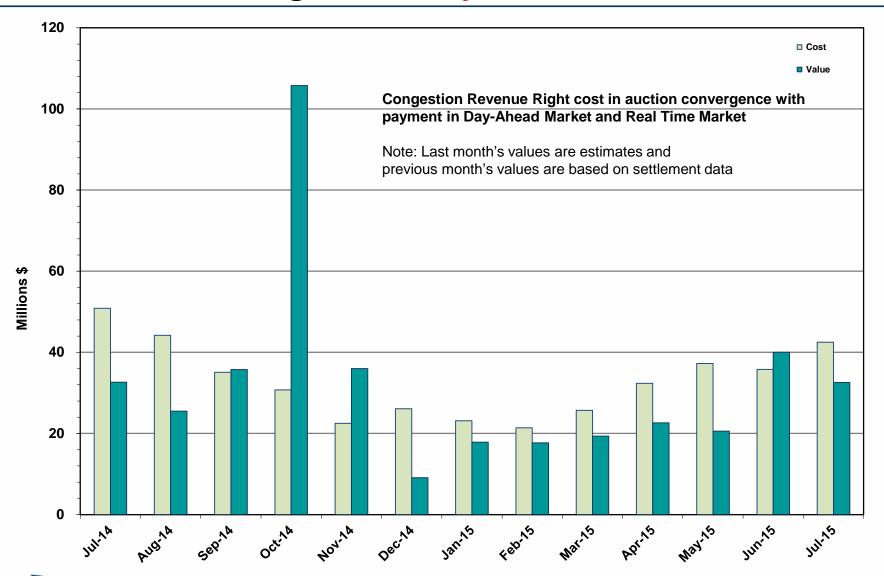


# Non-Spinning Reserve Service Deployment – July 2015

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



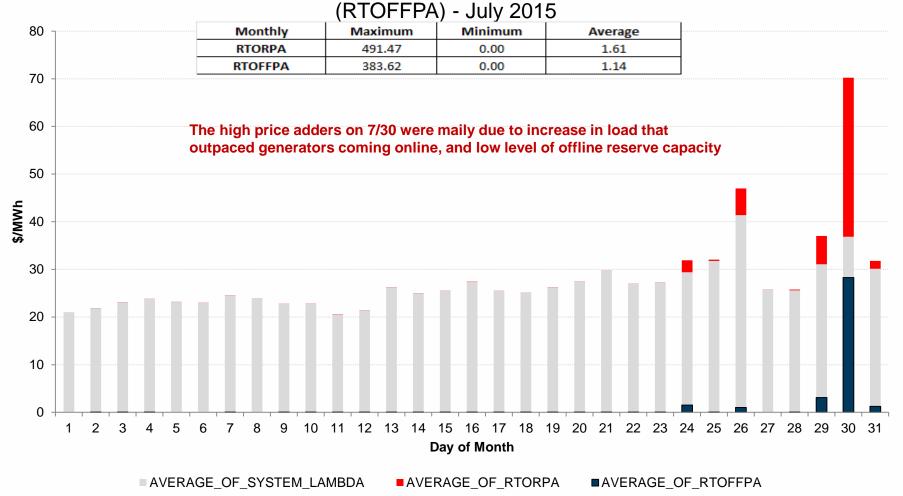
### **CRR Price Convergence – July 2015**





# ORDC Price Adder (Daily Average) - July 2015

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





# ERS Procurement for June 2015 – September 2015

	ВН1	BH2	ВН3	NBH
Non Weather-Sensitive ERS-10 MW	424.160	371.564	356.498	375.592
Non Weather-Sensitive ERS-30 MW	593.458	535.940	502.460	477.441
Weather-Sensitive ERS-30 MW	0.000	21.740	21.740	0.000
Total MW Procured	1,017.618	929.244	880.698	853.033
Clearing Price	\$2.40	\$26.44	\$26.96	\$2.80

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

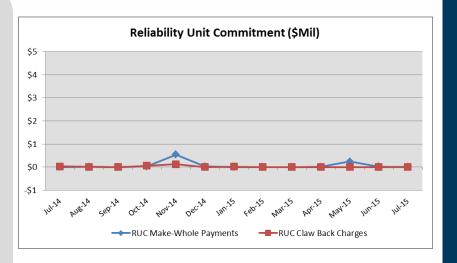
HE 1700 through 2000, Monday thru Friday except ERCOT Holidays

All other hours



### Reliability Services – July 2015

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	\$0.00
RUC Clawback Charges	\$0.01
RUC Commitment Settlement	\$0.01
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 were \$0.00M in July 2015. RUC Clawback Charges were \$0.01M.

There was \$0.01M allocated directly to load in July 2015, compared to:

- \$0.00M in June 2015
- \$0.03M in July 2014



### **Capacity Services – July 2015**

Capacity Services	\$ in Millions
Regulation Up Service	\$3.51
Regulation Down Service	\$1.38
Responsive Reserve Service	\$23.52
Non-Spinning Reserve Service	\$11.50
Black Start Service	\$0.63
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges	\$40.54

Capacity Services costs increased from last month and from July 2014.

July 2015 cost was \$40.54M, compared to:

- A charge of \$25.63M in June 2015
- A charge of \$28.61M in July 2014



# **Energy Settlement – July 2015**

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$608.46
Point to Point Obligation Purchases	\$31.92
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$603.47)
Day-Ahead Congestion Rent	\$36.91
Day-Ahead Market Make-Whole Payments	(\$0.07)

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$621.09)
Energy Imbalance at a Load Zone	\$902.15
Energy Imbalance at a Hub	(\$246.53)
Real Time Congestion from Self Schedules	\$0.31
Block Load Transfers and DC Ties	(\$4.04)
Impact to Revenue Neutrality	\$30.80
Emergency Energy Payments	(\$0.04)
Base Point Deviation Charges	\$0.26
Real-Time Metered Generation (MWh in millions)	36.86



## Congestion Revenue Rights (CRR) – July 2015

	\$ in Millions
Annual Auction	(\$28.14)
Monthly Auction	(\$9.89)
Total Auction Revenue	(\$38.03)
Day-Ahead CRR Settlement	(\$32.56)
Day-Ahead CRR Short-Charges	\$0.12
Day-Ahead CRR Short-Charges Refunded	(\$0.12)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
Total CRR Funding	(\$32.56)
Day-Ahead Point to Point Obligations Settlement	\$31.92
Real-Time Point to Point Obligation Settlement	(\$33.59)
Net Point to Point Obligation Settlement	(\$1.67)

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 \$1.67M compared to a net charge of \$9.44M last month.



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

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$9.90
CRR Balancing Account Credit Total	\$4.48
CRR PTP Option Award Charges	\$0.07
Day-Ahead CRR Short-Charges Refunded	(\$0.12)
Load Allocated CRR Amount	(\$4.33)
Total Fund Amount	\$10.00

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

In the month of July 2015, the fund cap of \$10M was reached and excess funds of \$4.33M were allocated to Load.



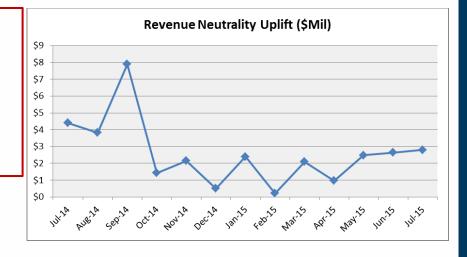
### **Revenue Neutrality – July 2015**

Revenue Neutrality Settlement	\$ in Millions
Real-Time Point to Point Obligation Settlement	(\$33.59)
Real-Time Point to Point Options and Options with Refund Settlement	\$0.00
Real-Time Energy Imbalance Settlement	\$34.53
Real-Time Congestion from Self-Schedules Settlement	\$0.31
DC Tie & Block Load Transfer Settlement	(\$4.04)
Charge to Load	\$2.79

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

July 2015 was a charge of \$2.79M, compared to:

- \$2.64M charge in June 2015
- \$4.39M charge in July 2014





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

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance Settlement Amount to QSEs with Generation	\$435.66
Load Allocated AS Imbalance Revenue Neutrality Payment	(\$435.67)
Total Charges	(\$435.67)

In July 2015, total charges to QSEs with generation were \$435,666, while June 2015 ended with a payment to QSEs with generation of \$86,112.

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

29 of the 31 days were settled as a net credit to QSEs representing generation and as a charge to QSEs representing load.

The highest payment to QSEs with generation occurred on July 29<sup>th</sup> in the amount of \$27,342. The highest charge to QSEs with generation of \$509,130 occurred on July 30<sup>th</sup>.



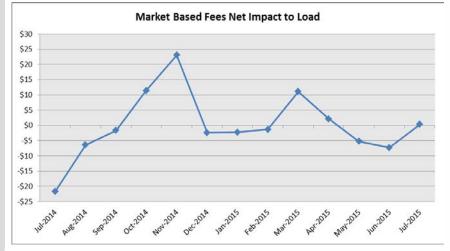
### **Net Allocation to Load – July 2015**

Market-Based Allocation	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$38.03)
Balancing Account Proceeds Settlement	(\$4.33)
Net Reliability Unit Commitment Settlement	(\$0.01)
Ancillary Services Settlement	\$40.54
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$2.79
Emergency Energy Settlement	\$0.04
Base Point Deviation Settlement	(\$0.26)
ORDC Settlement	(\$0.44)
Total	\$0.30
Fee Allocation	
ERCOT Administrative Fee Settlement	\$17.21
Net Allocated to Load	\$17.51

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

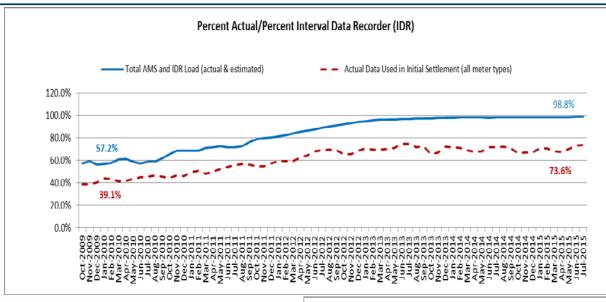
July 2015 was a charge of \$17.51M, compared to:

- A charge of \$7.68M in June 2015
- A credit of \$5.73M in July 2014



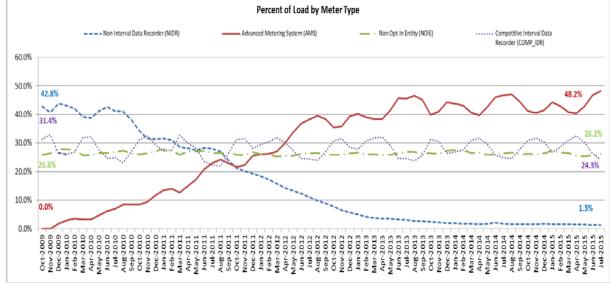


### **Advanced Meter Settlement Impacts – July 2015**



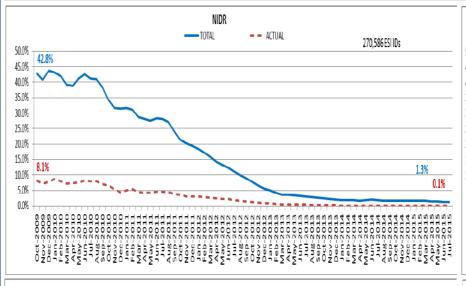
July 2015: At month end, settling 6.8M ESIIDs using Advanced Meter data.

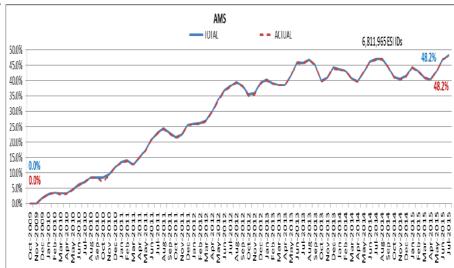
July 2015: 98.8% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

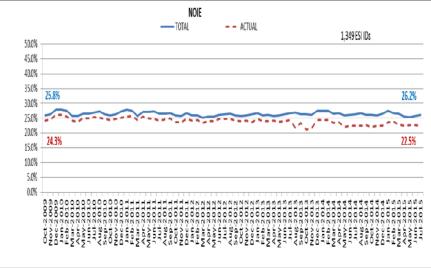


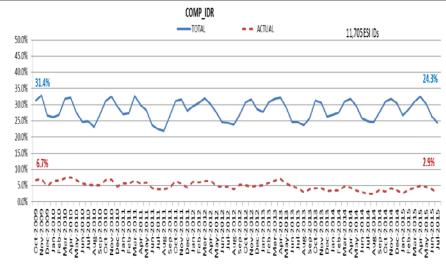


# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – July 2015











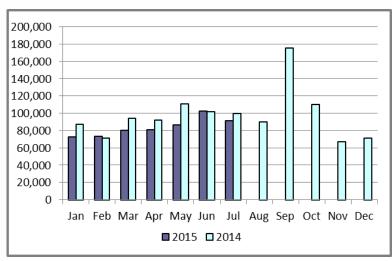
# **Retail Transaction Volumes – Summary – July 2015**

	Year-	To-Date	Transactions Received			
Transaction Type	July 2015 July 2014		July 2015	July 2014		
Switches	587,632	656,088	91,211	99,568		
Acquisition	0	0	0	0		
Move - Ins	1,538,160	1,597,429	263,233	251,957		
Move - Outs	792,666	796,422	133,905	131,607		
Continuous Service Agreements (CSA)	313,114	413,855	49,489	57,954		
Mass Transitions	0	4,975	0	0		
Total	3,231,572	3,468,769	537,838	541,086		

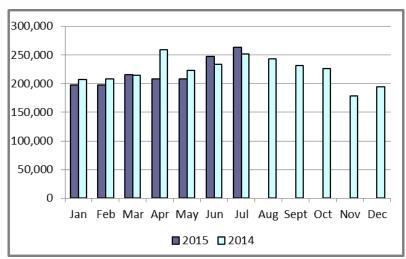


### Retail Transaction Volumes – Summary – July 2015

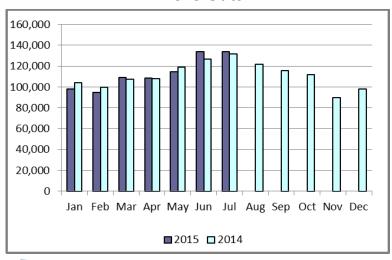
#### **Switches/Acquisitions**



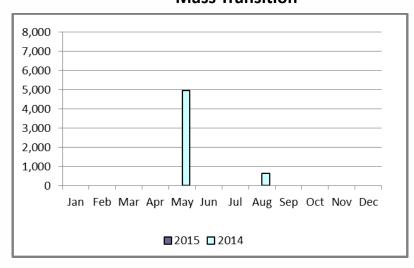
#### **Move-Ins**



#### **Move-Outs**



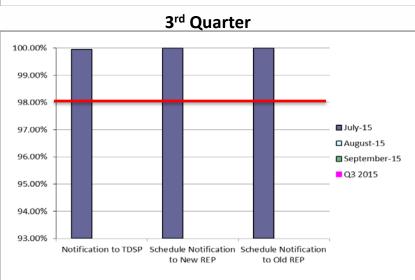
#### **Mass Transition**

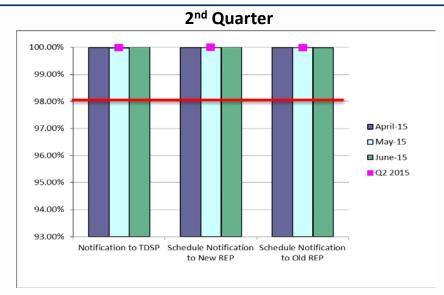


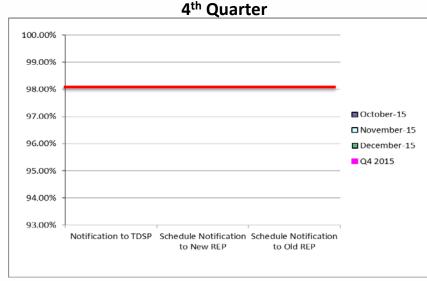


### Retail Performance Measures – Switch – July 2015



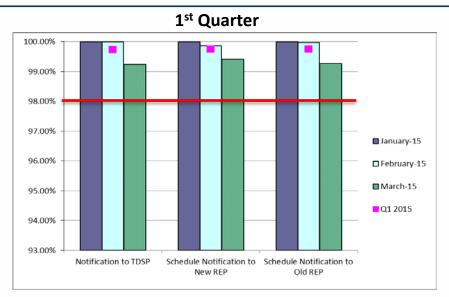


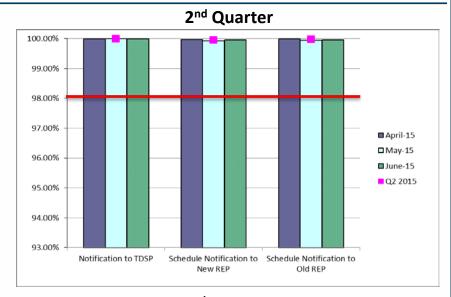


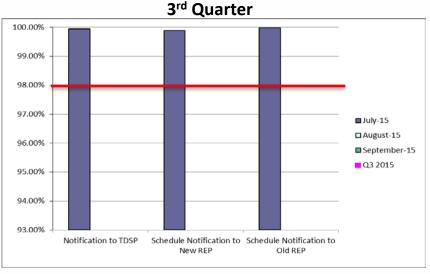


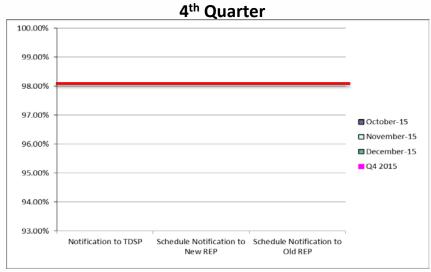


### Retail Performance Measures (Same Day Move-In) – July 2015



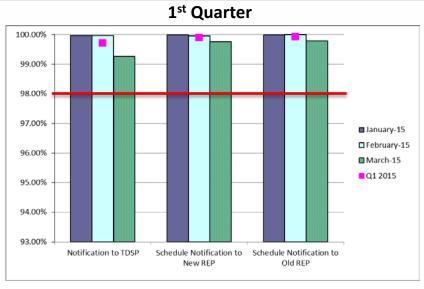


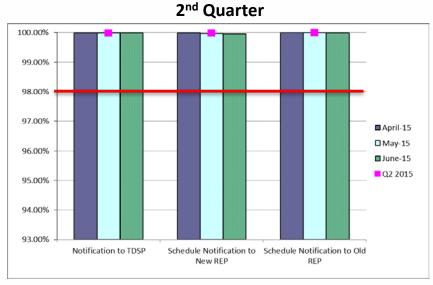




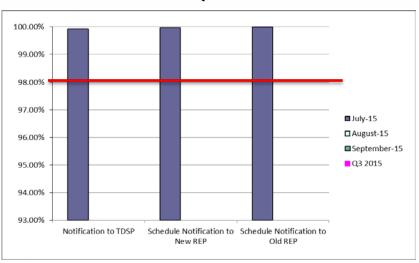


### Retail Performance Measures (Standard Move-In) – July 2015

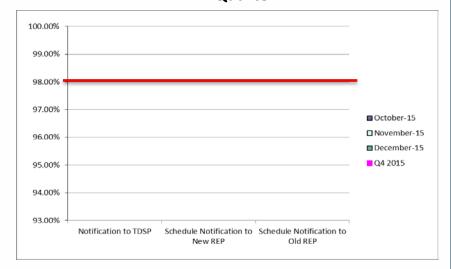








#### 4<sup>th</sup> Quarter





# **Projects Report**

Impact Metric Tolerances		_	2015 Portfolio ending Estimate
Unfavorable variances are represented as negative numbers within the report.	Projects In Flight/On Hold (Count = 48)	\$	23,214,404
report Green = No more than 4.9% unfavorable variance - Yellow = Unfavorable variance between 4.9% and 9.9% - Red = Unfavorable variance more than 9.9%	Projects Not Yet Started (Count = 19)	\$	727,239
	Projects Completed (Count = 27)	\$	2,432,881
	Spending Reductions Required to Maintain Capital Budget	\$	(4,724,524)
	TOTAL	\$	21,650,000

2015 Project Funding

Project Number	Projects in Initiation Phase (Count = 7)
172-01	Physical Security Project #2
174-01	2015 Outage Scheduler Enhancements
SCR783	Outage Scheduler Enhancements – Group 2, Usability and Filtering Enhancements
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
TBD	Infoblox Hardware Refresh
NPRR556	Resource Adequacy During Transmission Equipment Outage
NPRR573	Alignment of PRC Calculation

#### **Footnotes**

- 1 One or more phases took longer than expected, resulting in additional funding and/or time required
- 2 One or more phases required more labor than expected, resulting in additional funding and/or time required
- 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 = 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	10/8/2015	4	-395%		0%
141-01	Production Virtualization	11/6/2014	9/30/2015	TBD	9/30/2015		0%		0%
158-01	Move iTron LF Application to High Availability Environment	1/14/2015	6/19/2015	TBD	9/11/2015	4	-53%		0%
161-01	NPRRs 588 and 615	5/20/2015	7/15/2015	TBD	7/7/2015		14%		4%
164-01	Browser Compatibility Assessment	2/25/2015	4/29/2015	TBD	9/7/2015	1	-207%		2%
169-01	Short Circuit Ratio Functionality	4/6/2015	6/17/2015	TBD	11/4/2015	1	-194%		11%
170-01	Enterprise Content Alignment Program	4/8/2015	8/5/2015	TBD	8/5/2015		0%		27%
173-01	ERCOT Flight Certification Website	7/23/2015	12/11/2015	TBD	12/11/2015		0%		5%
TBD	Enterprise Resource Planning	8/5/2015	9/2/2015	TBD	9/2/2015		0%		0%
NPRR515	Day-Ahead Market Self-Commitment of Generation Resources	8/5/2015	9/18/2015	TBD	9/18/2015		0%		0%
NPRR588	Clarifications for PV Generation Resources	5/20/2015	8/7/2015	TBD	7/7/2015		39%	NA	See #161-01
NPRR615	PVGR Forecasting	5/20/2015	8/8/2015	TBD	7/7/2015		40%	NA	See #161-01



Project Number	Projects in Execution Phase (Count = 19)	Baseline Phase Start	Baseline Go- Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Вι	udget Impact
052-01	EMS Upgrade	9/24/2014	5/25/2016	5/25/2016	10/31/2016		0%		2%
065-01	NMMS Upgrade	12/17/2014	5/27/2016	5/30/2016	7/12/2016		0%		6%
116-01	Collage Replacement	2/6/2014	9/22/2014	7/8/2015	8/28/2015	4	-126%	2	-88%
120-01	IT Production Hardening	5/21/2015	4/1/2016	3/25/2016	4/25/2016		2%		3%
127-01	SQL Server 2012 Upgrade / Cluster Consolidation	12/18/2014	9/9/2015	9/9/2015	9/9/2015		0%		17%
134-01	Privileged Account Management	4/1/2015	9/30/2015	9/30/2015	10/30/2015		0%		9%
143-01	OSI Pi Visualization Enhancements	1/16/2015	6/19/2015	8/28/2015	8/30/2015	1	-45%		24%
144-01	OC-48 Replacement with DWDM	2/4/2015	10/5/2015	10/5/2015	12/7/2015		0%		0%
155-01	Replace N2N System	2/5/2015	5/14/2015	10/8/2015	11/16/2015	2	-150%	2	-17%
156-01	Symposium Call Center Replacement	2/5/2015	5/19/2015	8/28/2015	10/6/2015	2	-98%	2	-29%
163-01	Cyber Security Project #10	7/1/2015	9/15/2015	9/15/2015	11/30/2015		0%		0%
165-00	Capital Efficiencies and Enhancements - 2015	1/1/2015	12/31/2015	12/31/2015	12/31/2015		0%		0%
168-01	Configuration Management System Requirements for CIP v5 Readiness	7/6/2015	12/16/2015	12/16/2015	12/30/2015		0%		3%
171-01	CIP v5 Readiness Project	7/22/2015	4/29/2016	3/28/2016	3/28/2016		11%		1%
NPRR553	Monthly BLT Payment and Charge for Presidio Exception	4/9/2015	10/25/2015	10/25/2015	10/25/2015		0%	NA	See #165-00
NPRR589	Ancillary Service Offers in the Supplemental Ancillary Services Market	3/1/2015	9/25/2015	9/25/2015	9/25/2015		0%		
NPRR595	RRS Load Resource Treatment in ORDC	8/5/2015	9/25/2015	9/25/2015	10/27/2015		0%	NA	See NPRR698
NPRR698	Clarifications to NPRR595, RRS Load Resource Treatment In ORDC	8/5/2015	9/25/2015	9/25/2015	10/27/2015		0%		0%
SCR771	ERCOT System Change Allowing Independent Master QSE to Represent Split Generation Resources	4/23/2015	8/14/2015	8/14/2015	8/14/2015		0%	NA	See #165-00
Project Number	Projects in Stabilization (Count = 6)	Baseline Execution Phase Start	Baseline Go- Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Sche	dule Impact	Вι	udget Impact
NPRR626	Reliability Deployment Price Adder	1/15/2015	6/28/2015	6/26/2015	8/31/2015		1%	NA	See #149-01
NPRR645	Real-Time On-Line Capacity Revisions	1/15/2015	6/28/2015	6/26/2015	8/31/2015		1%	NA	See #149-01
NPRR665	As-Built Clarification of Reliability Deployment Price Adder	1/15/2015	6/28/2015	6/26/2015	8/31/2015		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	8/31/2015		1%	NA	See #149-01
122-01	Infoblox DNS/DHCP	5/21/2014	11/5/2014	11/20/2014	8/31/2015	1	-8%		0%
149-01	Market System Enhancements 2015	1/15/2015	6/28/2015	6/26/2015	8/31/2015		1%		14%



Project Number	Projects On Hold (Count = 4)	Forecast Start Date	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	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 =27)	Baseline Execution Phase Start	Baseline Go- Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status		Schedule Status		To	tal 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%		12%		
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%		
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		
NPRR639	Correction to Minimum Current Exposure	1/29/2015	6/13/2015	6/13/2015	7/10/2015		0%	NA	See #154-01		
NPRR598	Clarify Inputs to PRC and ORDC	1/15/2015	6/28/2015	7/1/2015	7/31/2015		-1%	NA	See #149-01		
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%		33%		
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%		-1%		
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	-35%		
097-01	ABB MMS OS Technology Refresh	8/15/2014	3/26/2015	3/26/2015	5/8/2015		0%		-2%		
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%		
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%		
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	-7%		



Project Number	2015 Projects Not Yet Started (Count = 19)	Forecast Start Date
NPRR419	Revise Real Time Energy Imbalance and RMR Adjustment Charge	Aug-2015
NPRR617	Energy Offer Flexibility	Aug-2015
NPRR662	Proxy Energy Offer Curves	Aug-2015
NPRR680	Allow QSEs to Self-Arrange AS Quantities Greater Than Their AS Obligation	Aug-2015
RMGRR126	Additional ERCOT Validations for Customer Billing Contact Information File	Aug-2015
RRGRR003	Modifications to Improve Wind Forecasting	Aug-2015
TBD	AV Upgrades to TCC1 Conference Rooms	Sep-2015
TBD	Build Load Models for TSAT	Sep-2015
TBD	CRR UI Framework Upgrade	Sep-2015
TBD	Cyber Security Project #19	Sep-2015
TBD	Emergency Energy Settlements Inputs Automation	Sep-2015
TBD	N-1-x Tool	Sep-2015
TBD	Tools for Renewables Desk	Sep-2015
134-02	Privileged Account Management - SSAE16	Oct-2015
TBD	CREZ Voltage Control and Coordination - Phase 2	Oct-2015
TBD	Records Management and eDiscovery	Oct-2015
NPRR620	Collateral Requirements for Counter-Parties with No Load or Generation	Nov-2015
NPRR679	ONOPTOUT for RUC Given After the Adjustment Period	Nov-2015
NPRR683	Revision to Available Credit Limit Calculation	Nov-2015

