



ERCOT Monthly Operational Overview
(January 2016)

ERCOT Public
February 15, 2016

Grid Planning & Operations

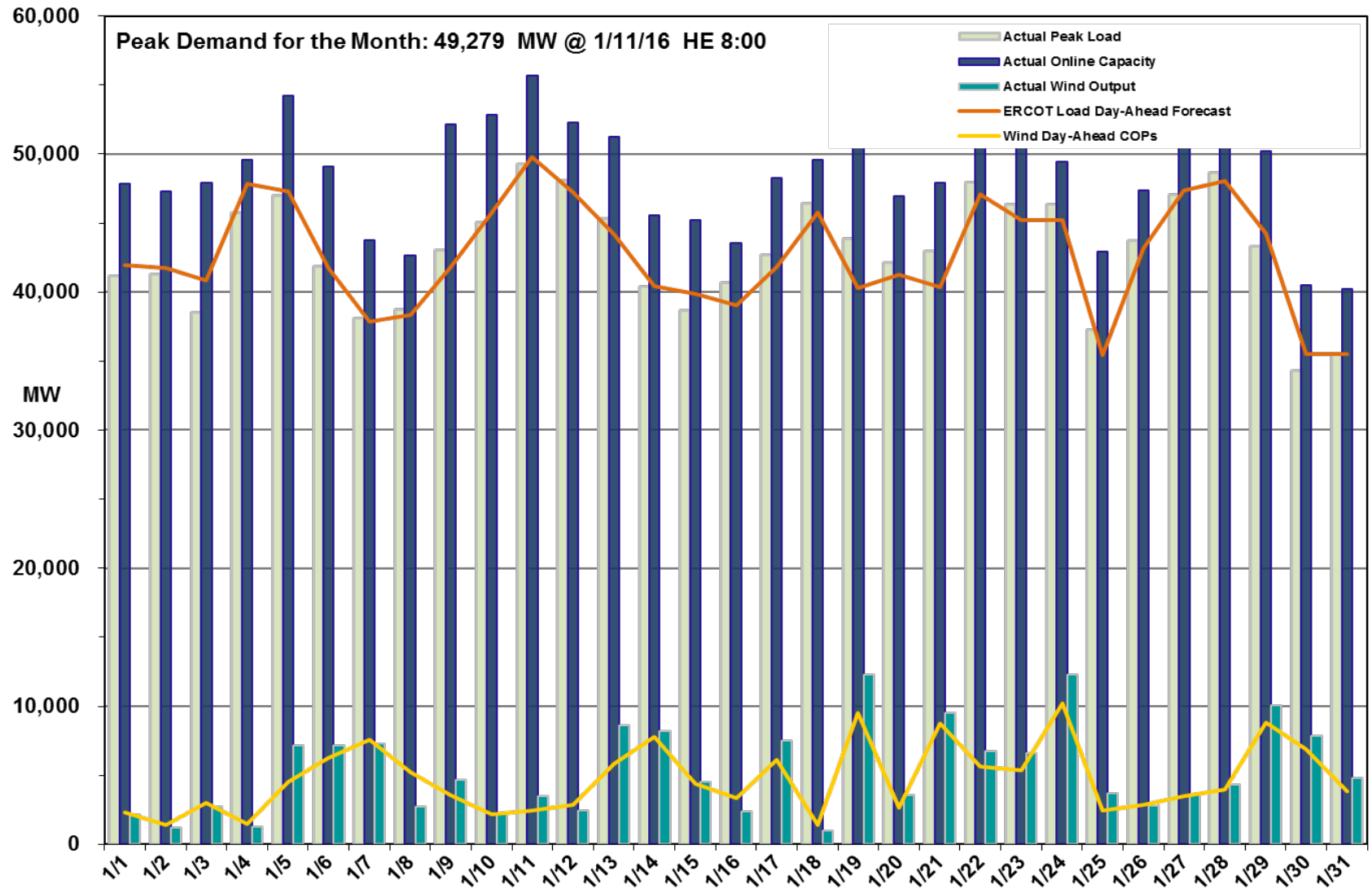
Operations

- The peak demand of 49,279 MW on January 11th was less than the day-ahead mid-term forecast peak of 49,764 MW of the same operating period. In addition, it was less than the January 2015 actual peak demand of 56,764 MW. The instantaneous peak load on January 11th was 49,801 MW.
- Day-ahead load forecast error for January was 3.22%
- ERCOT issued two notifications
 - Two advisories due to Physically Responsive Capability being less than 3,000 MW.

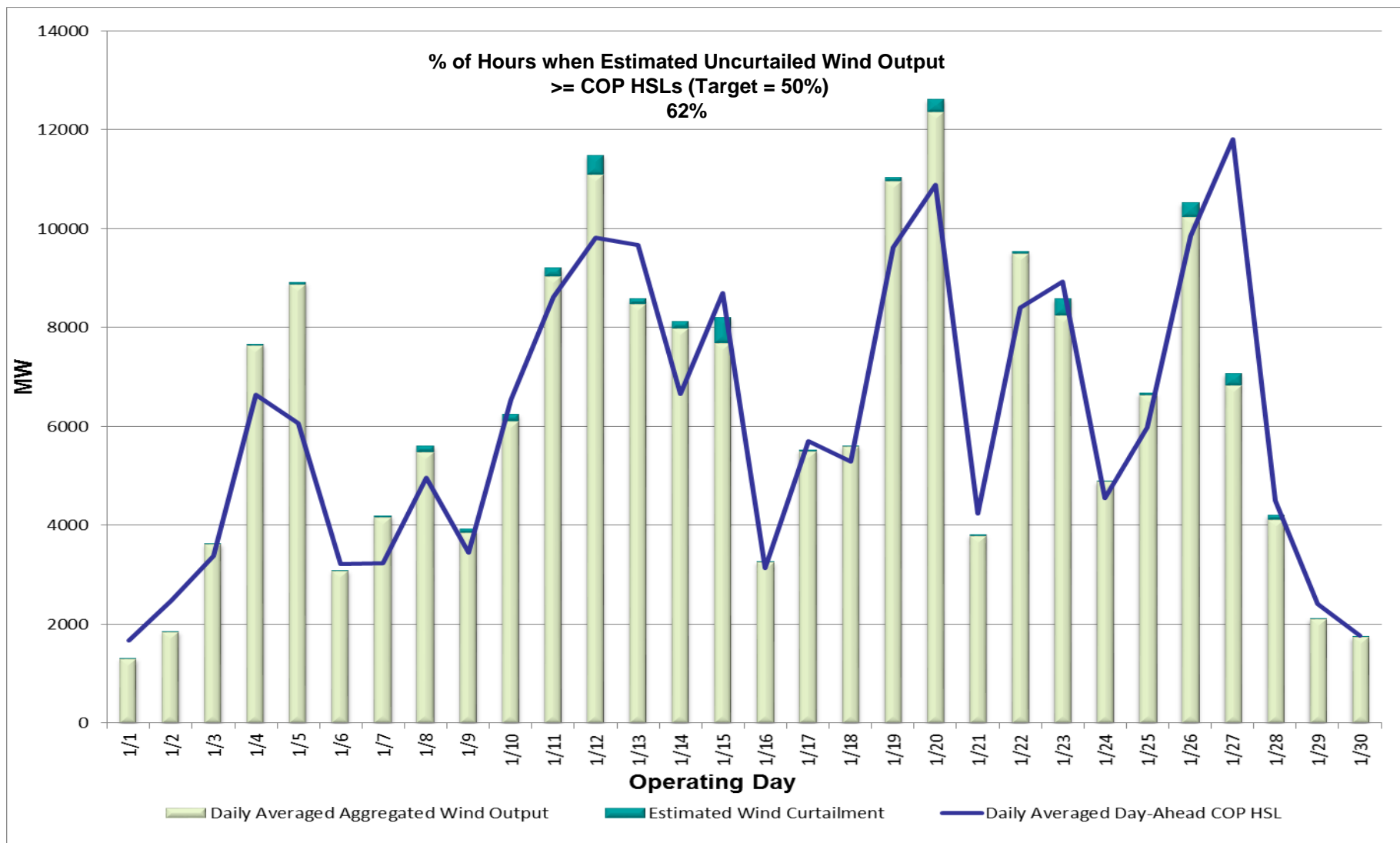
Planning Activities

- 241 active generation interconnection requests totaling 57,422 MW, including 24,472 MW of wind generation, as of January 31, 2016. Fourteen fewer requests and a decrease of 3,722 MW from December 31, 2015.
- 15,929 MW wind capacity in commercial operations on January 31, 2016.

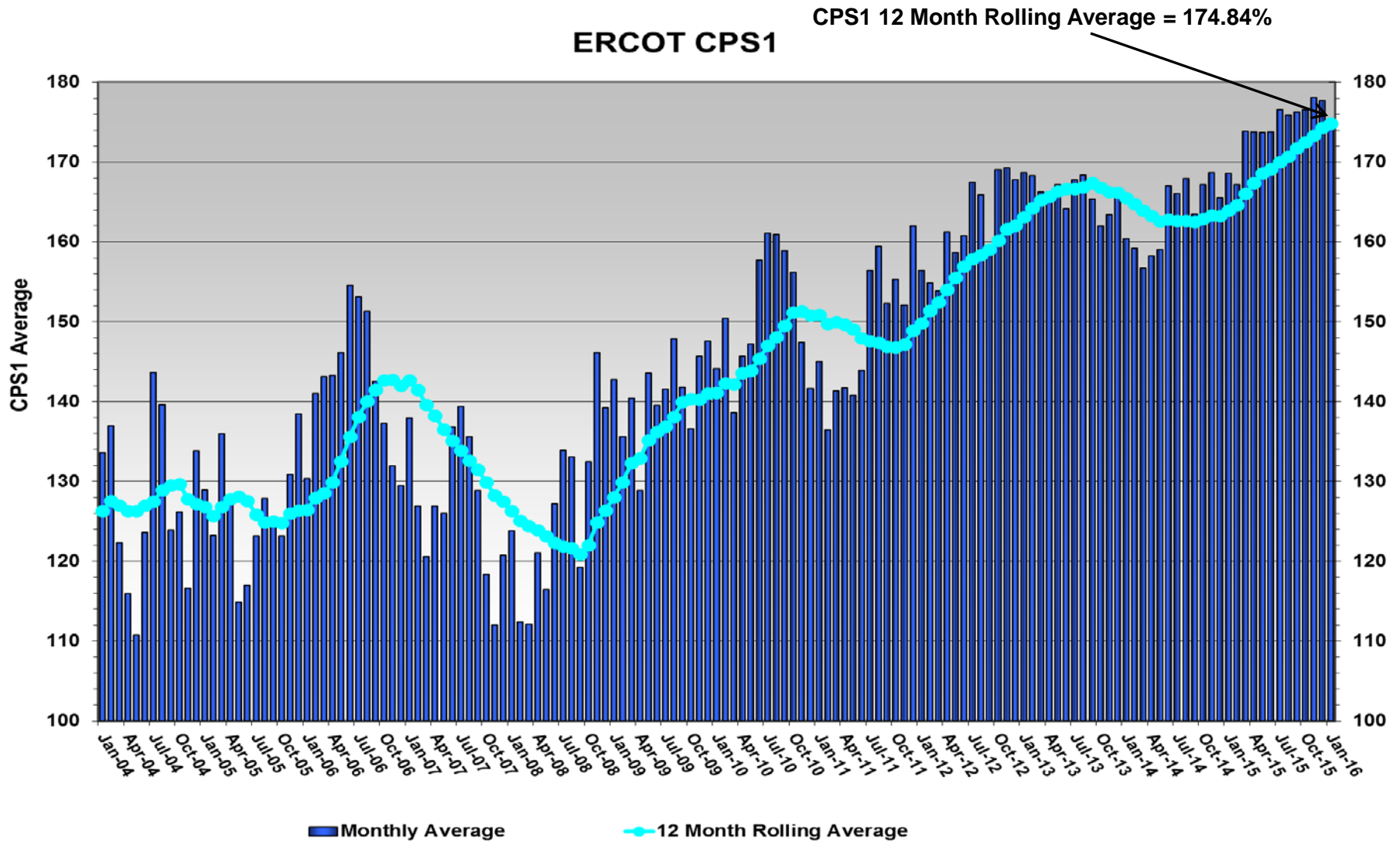
Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs, & On-Line Capacity at Peak – January 2016



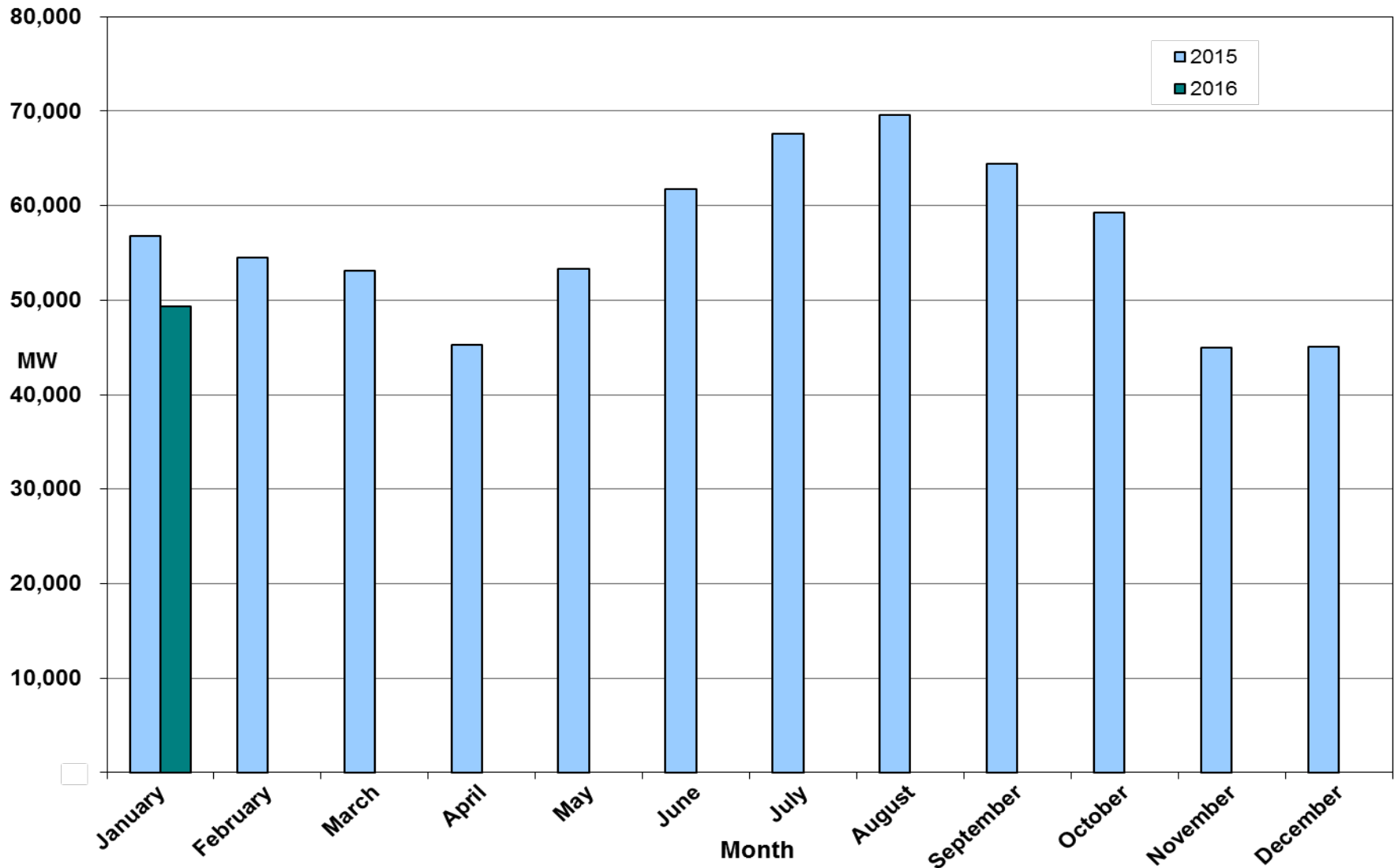
Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – January 2016



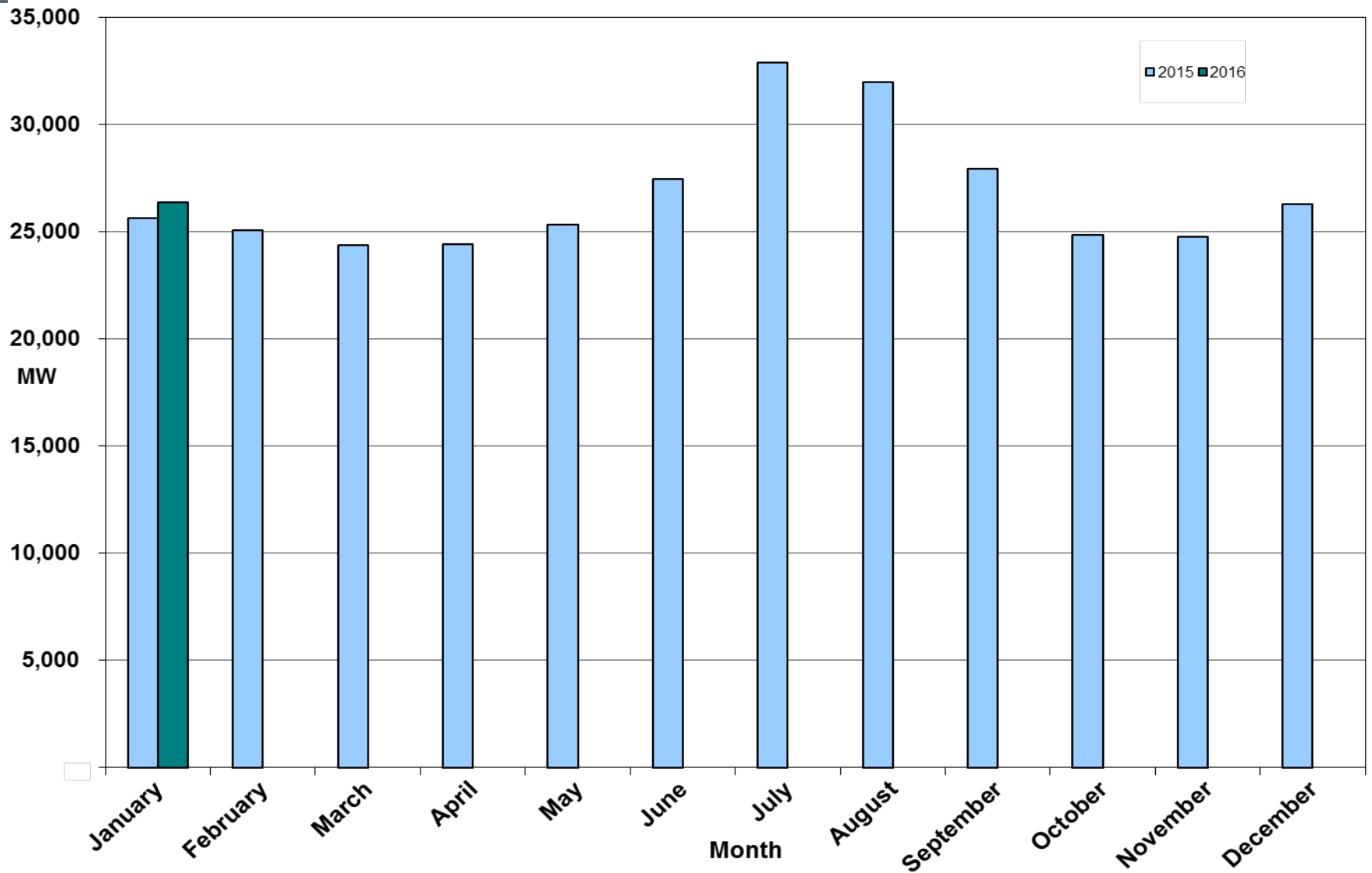
ERCOT's CPS1 Monthly Performance – January 2016



Monthly Peak Actual Demand – January 2016



Monthly Minimum Actual Demand – January 2016



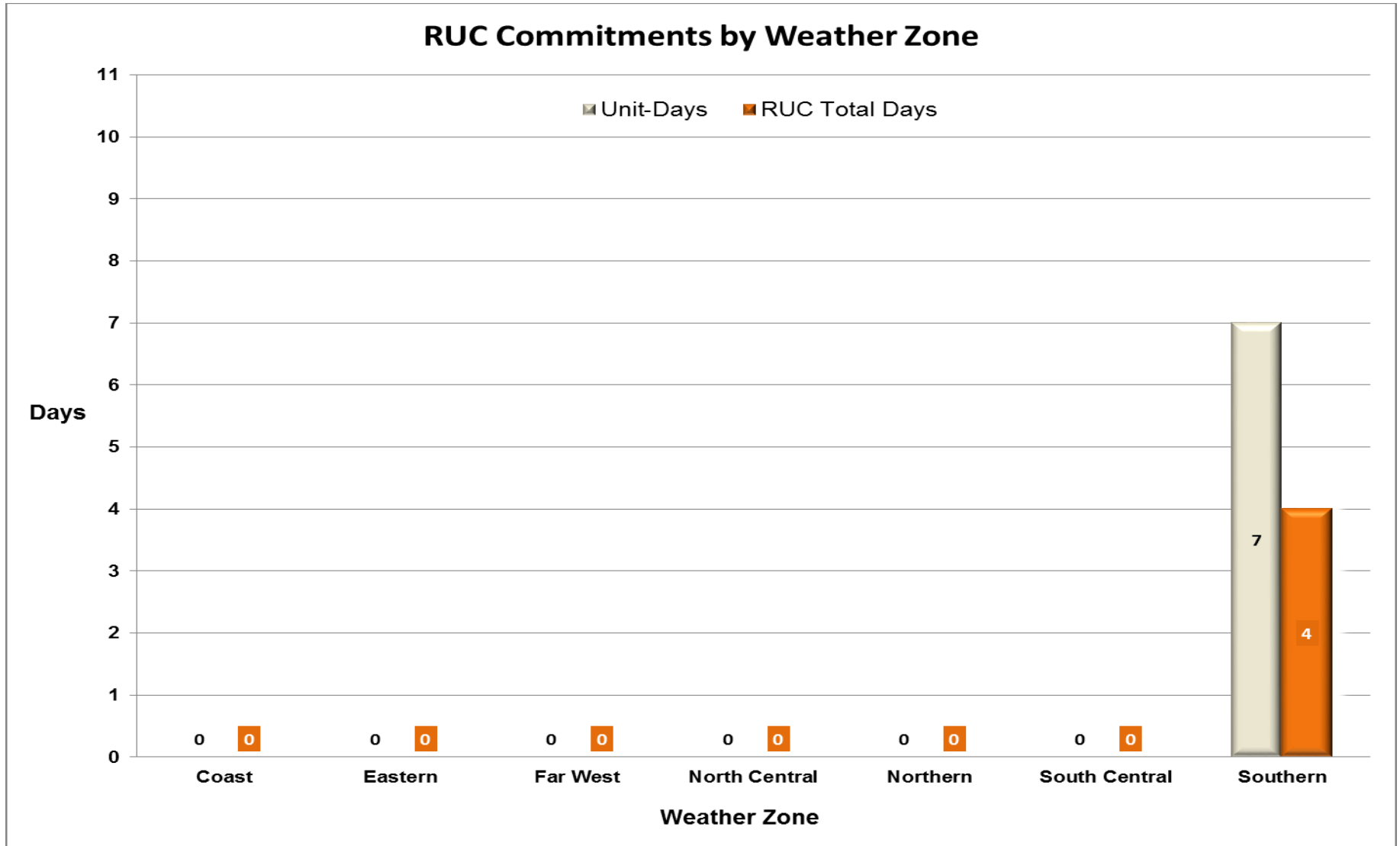
Day-Ahead Load Forecast Performance – January 2016

**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	January 2016 MAPE	
Average Annual MAPE	3.02	2.86	2.83	2.86	3.22	
Lowest Monthly MAPE	2.51	2.07	2.15	1.89	Lowest Daily MAPE	0.83 Jan – 14
Highest Monthly MAPE	3.49	3.50	3.70	3.81	Highest Daily MAPE	8.06 Jan – 4

Reliability Unit Commitment (RUC) Capacity by Weather Zone

January 2016



Generic Transmission Constraints (GTCs) – January 2016

GTCs	Jan-15	Nov-15	Dec-15	Jan-16	Last 12 Months Total Days (Feb 15 – Jan 16)
	Days GTCs	Days GTCs	Days GTCs	Days GTCs	
North – Houston	0	0	0	0	3
Valley Import	0	0	0	0	3
Zorillo - Ajo	-	9	6	3	103
Panhandle	-	3	5	1	9
Laredo	-	1	0	0	4
Liston	-	0	9	15	24
Molina	-	-	19	1	20

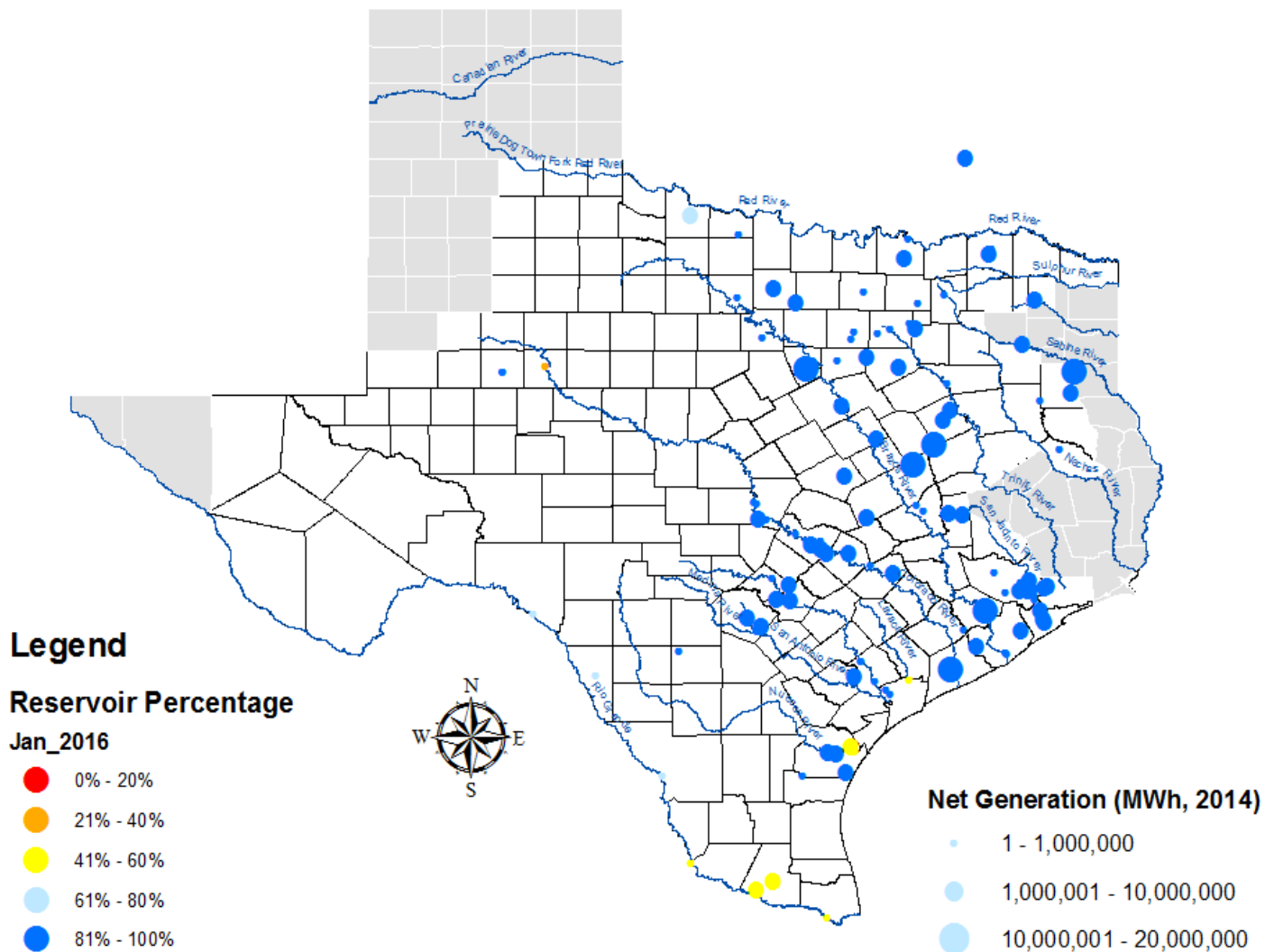
GTC: A transmission flow limit more constraining than a Transmission Element’s normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT’s transmission security 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 – January 2016

- Two advisories issued due to Physically Responsive Capability being less than 3,000 MW.
 - Issued on 1/18/16
 - Issued on 1/21/16

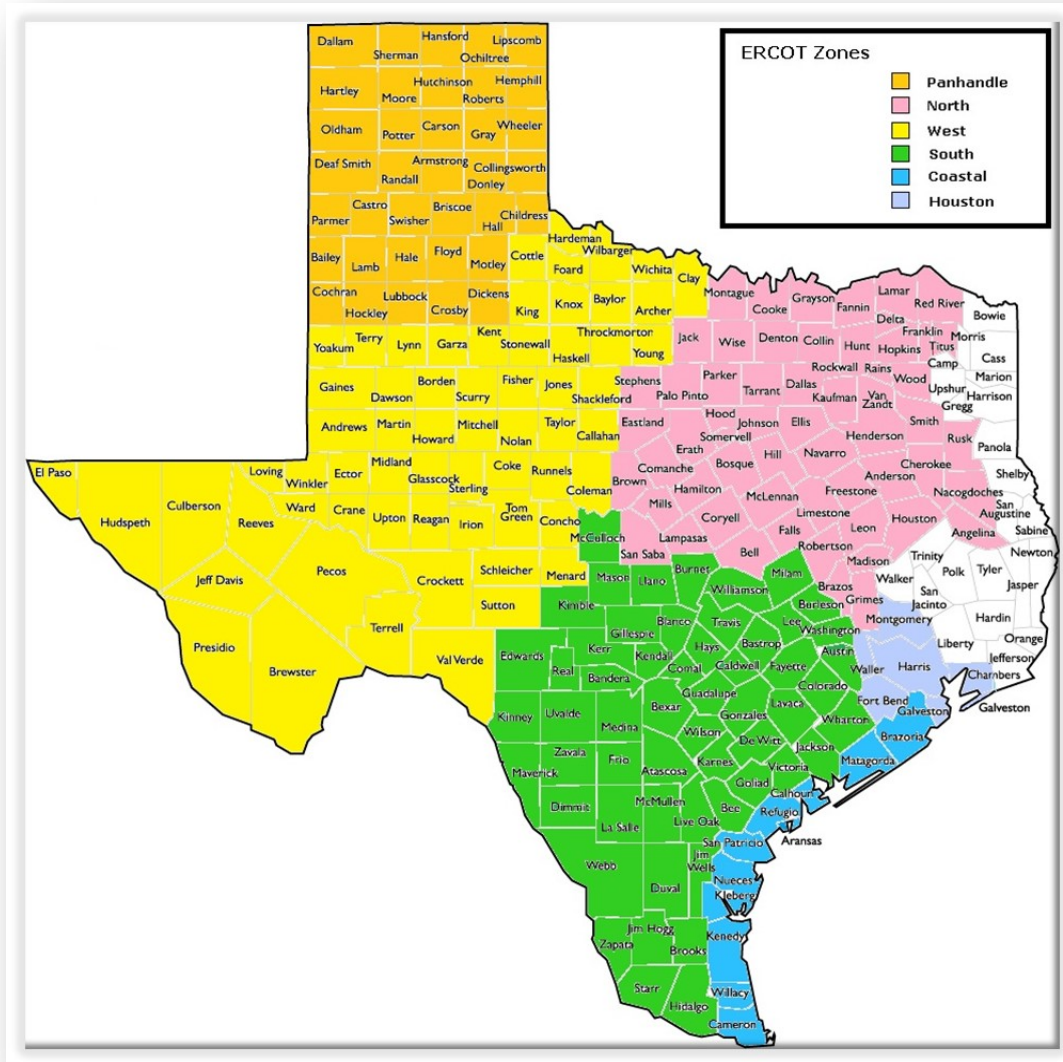
Lake Levels Update – February 1, 2016



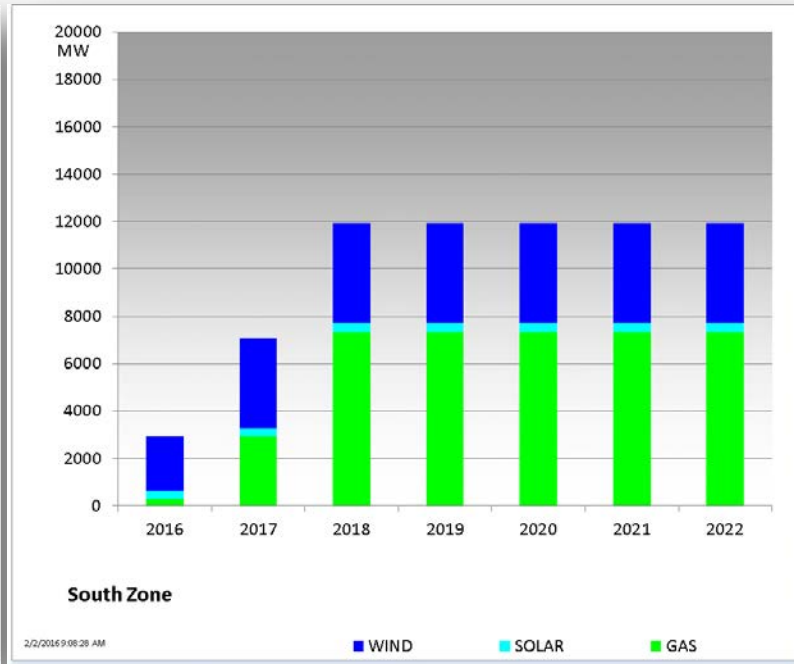
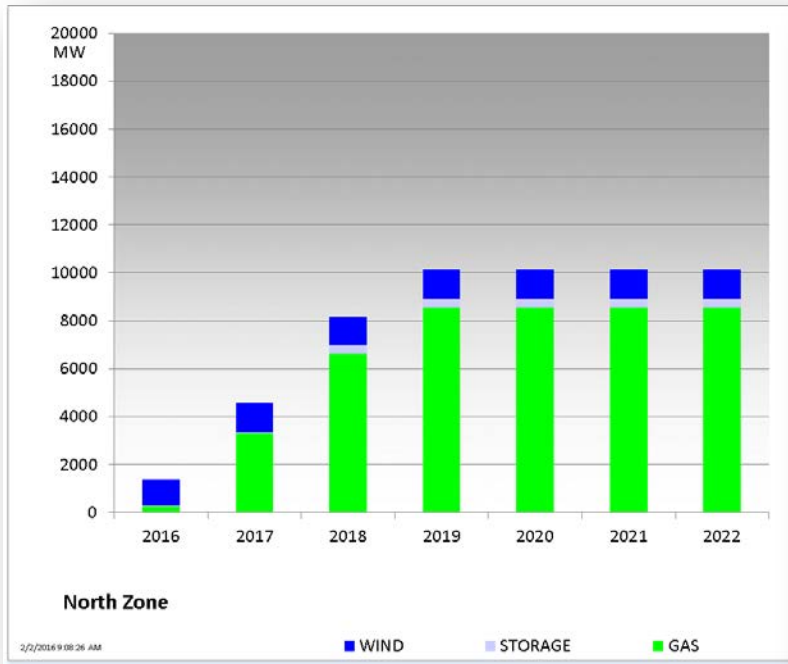
Planning Summary – January 2016

- ERCOT is currently tracking 241 active generation interconnection requests totaling 57,422 MW. This includes 24,472 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of more than \$1.1 Billion.
- Transmission Projects endorsed in 2016 total \$18 Million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$6.74 Billion.
- Transmission Projects energized in 2015 total about \$652.9 Million.

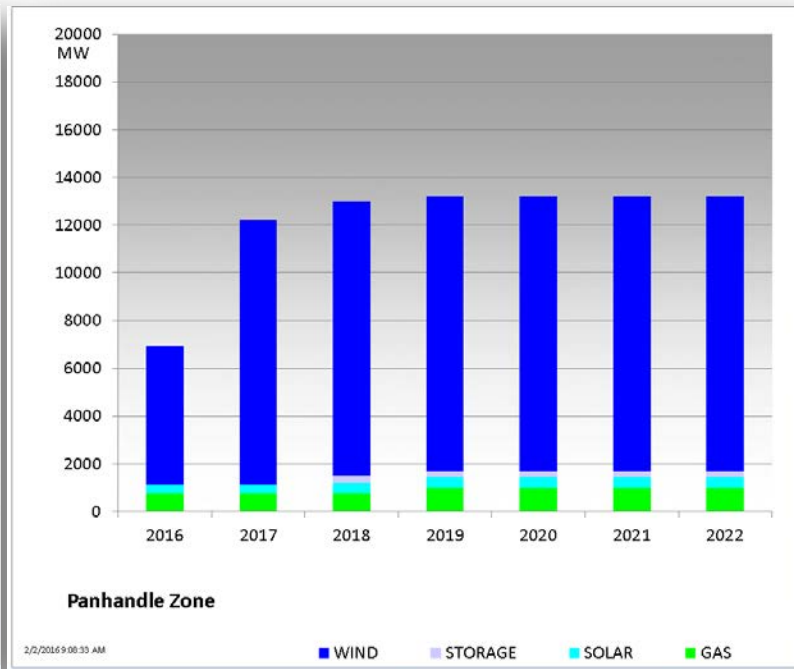
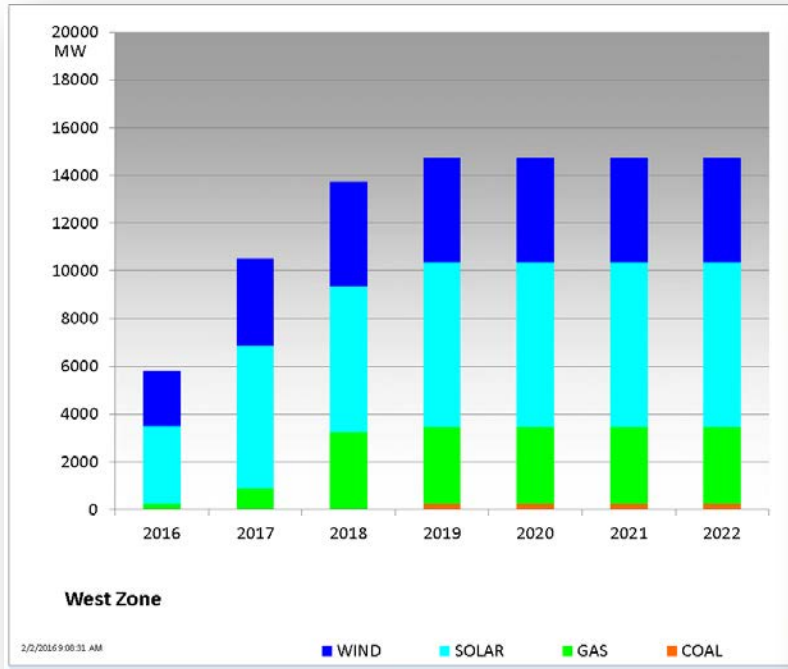
Mapping of Counties to ERCOT Zones – January 2016



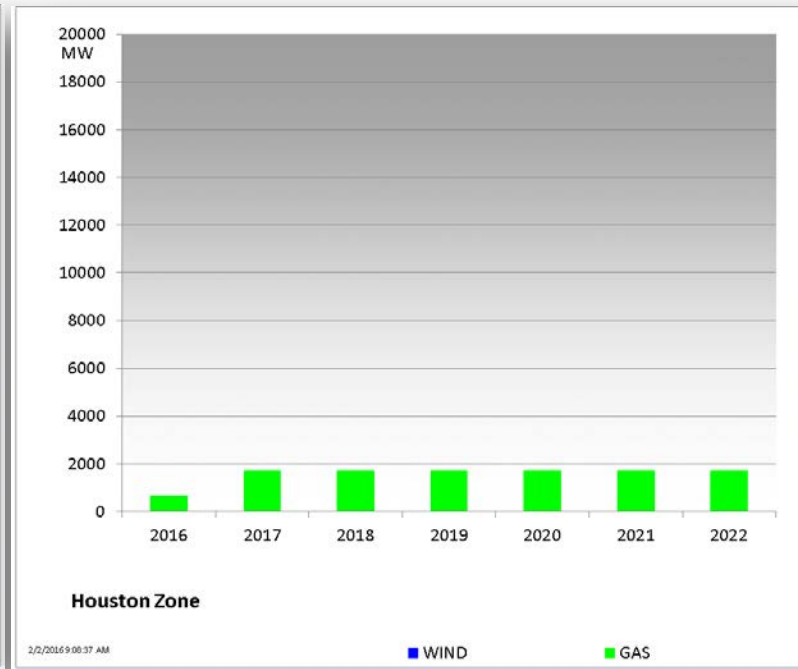
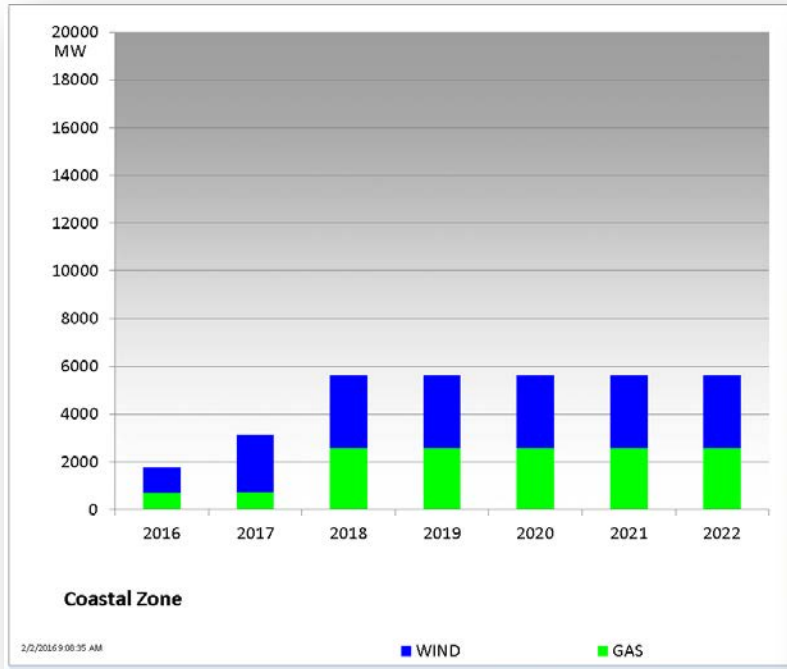
Cumulative MW Capacity of Interconnection Requests by Zone January 2016



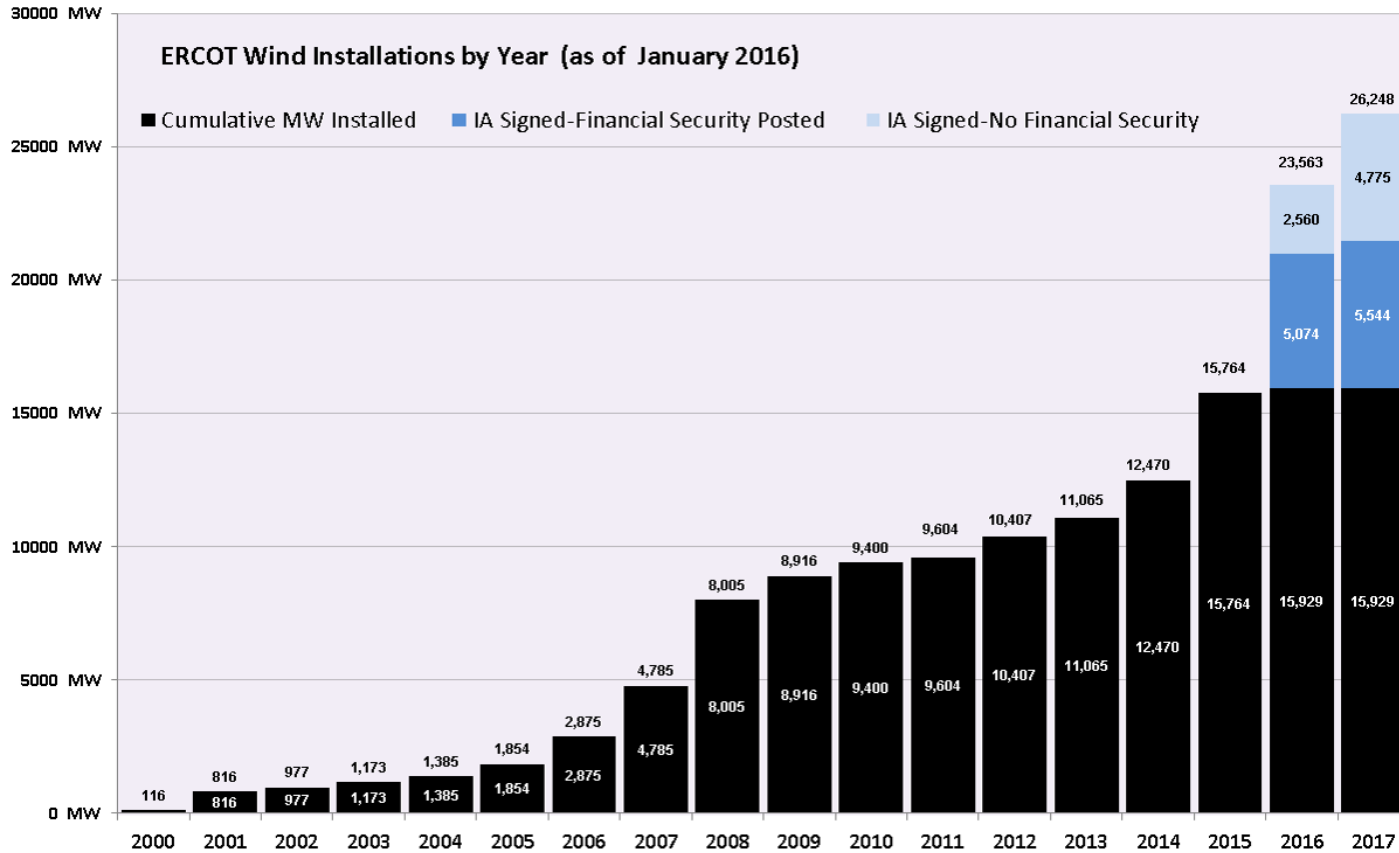
Cumulative MW Capacity of Interconnection Requests by Zone January 2016



Cumulative MW Capacity of Interconnection Requests by Zone January 2016



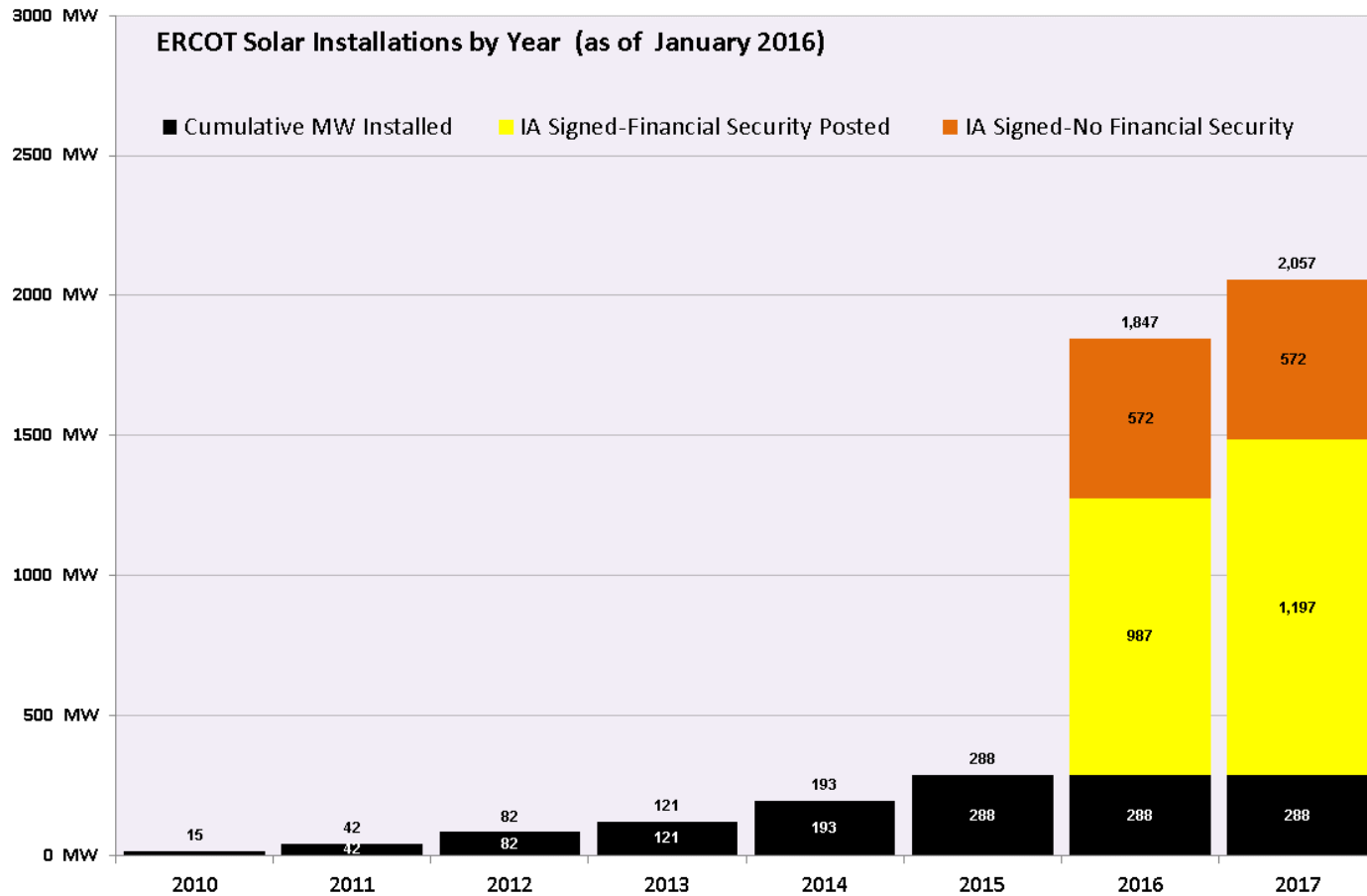
Wind Generation – January 2016



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 – January 2016



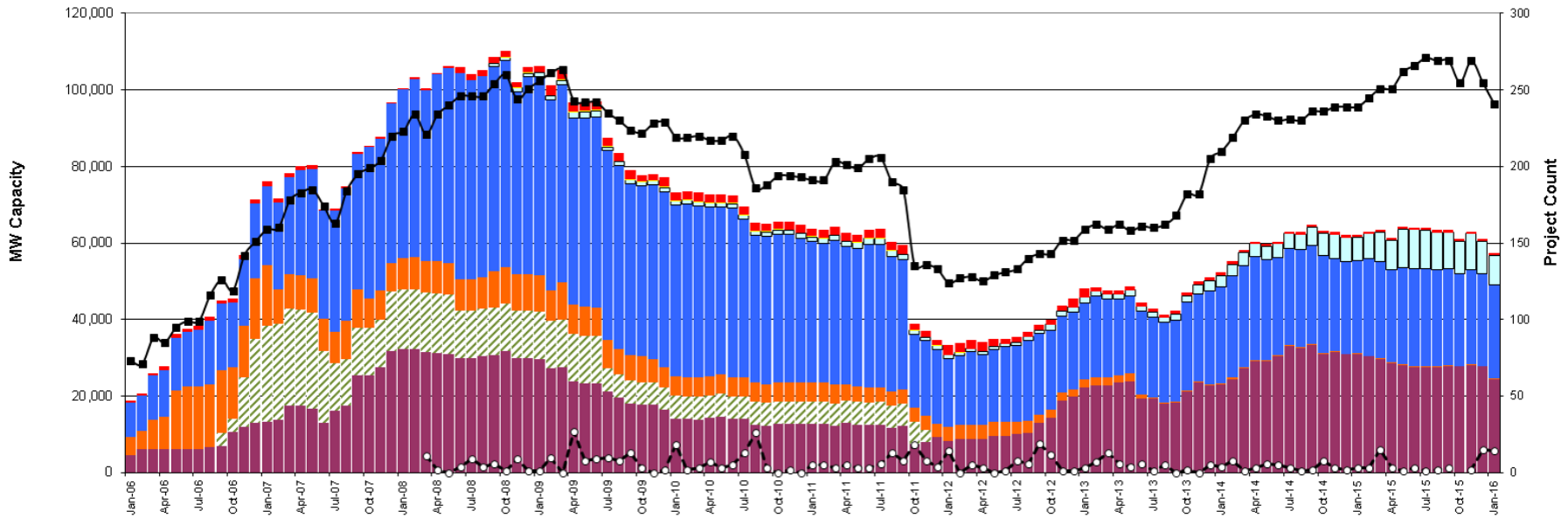
The data presented here is based upon the latest registration data provided to ERCOT by the resource owners and can change without notice. Any capacity changes will be reflected in current and subsequent years' totals. Scheduling delays will also be reflected in the planned projects as that information 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 – January 2016

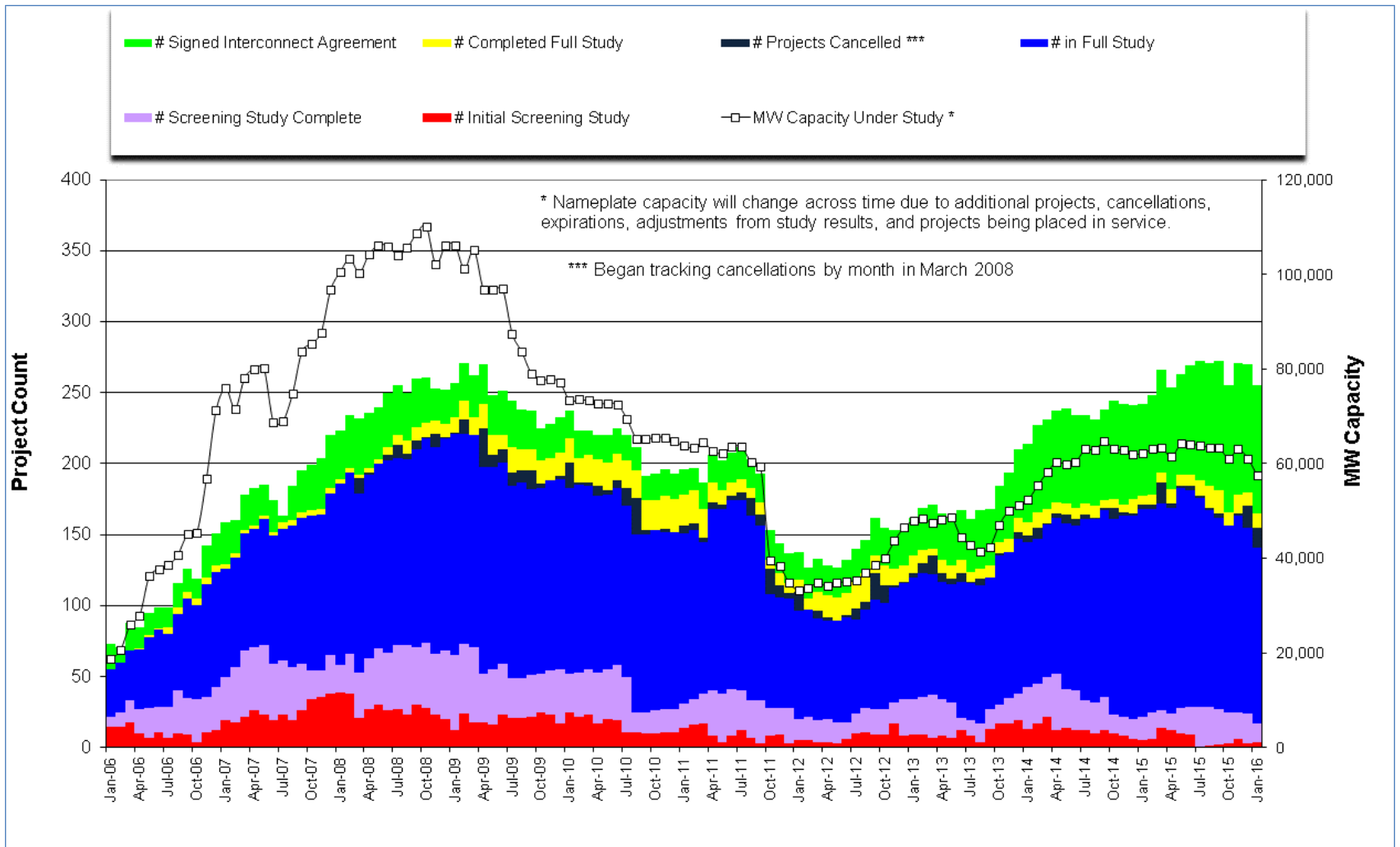


*Prior to September 2008, Category "Other" included "Solar" and "Biomass"

Projects in all phases of interconnection study are reflected in this graph
 Project cancellation tracking by month began in March 2008

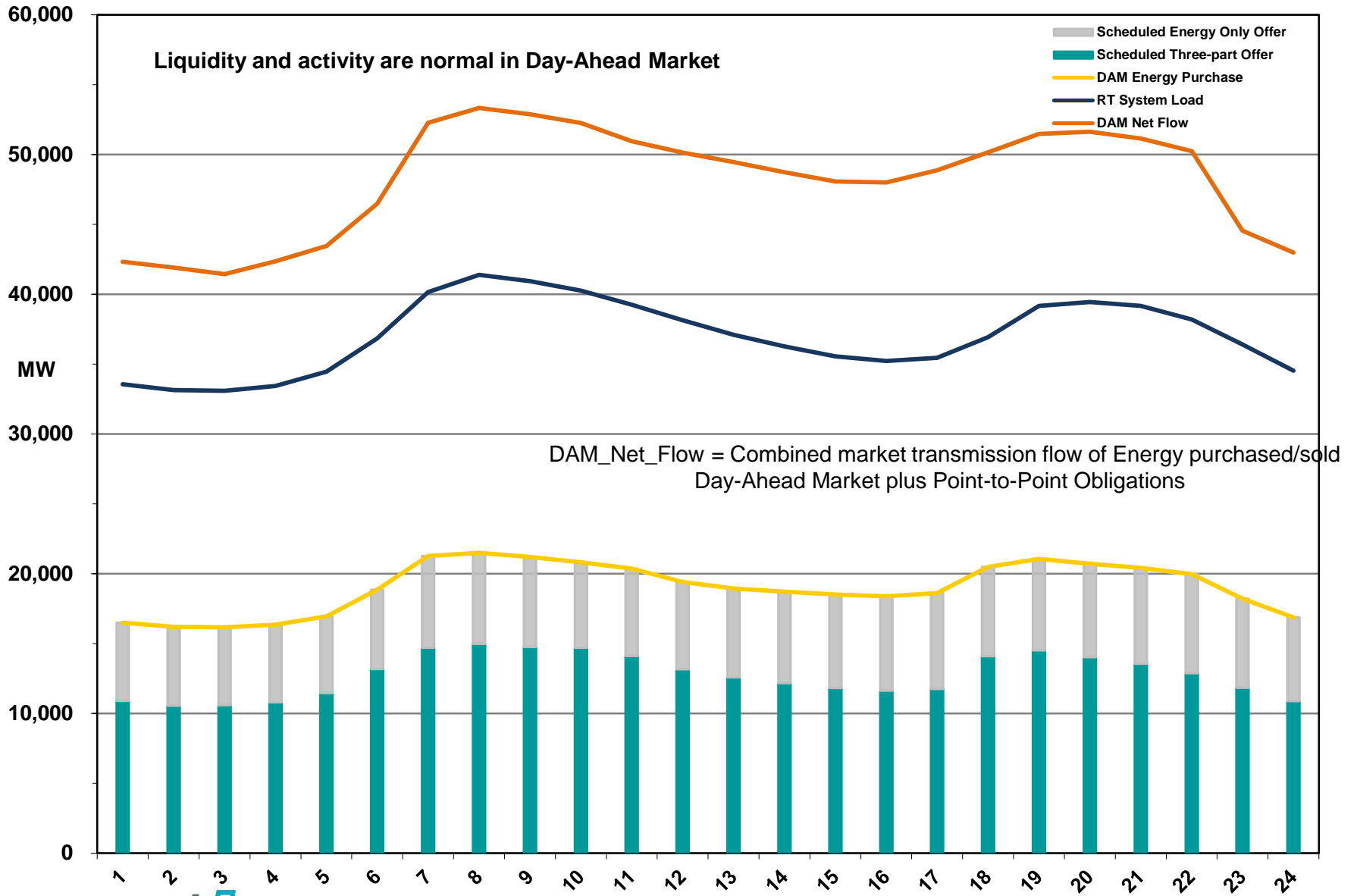


Generation Interconnection Activity by Project Phase – January 2016

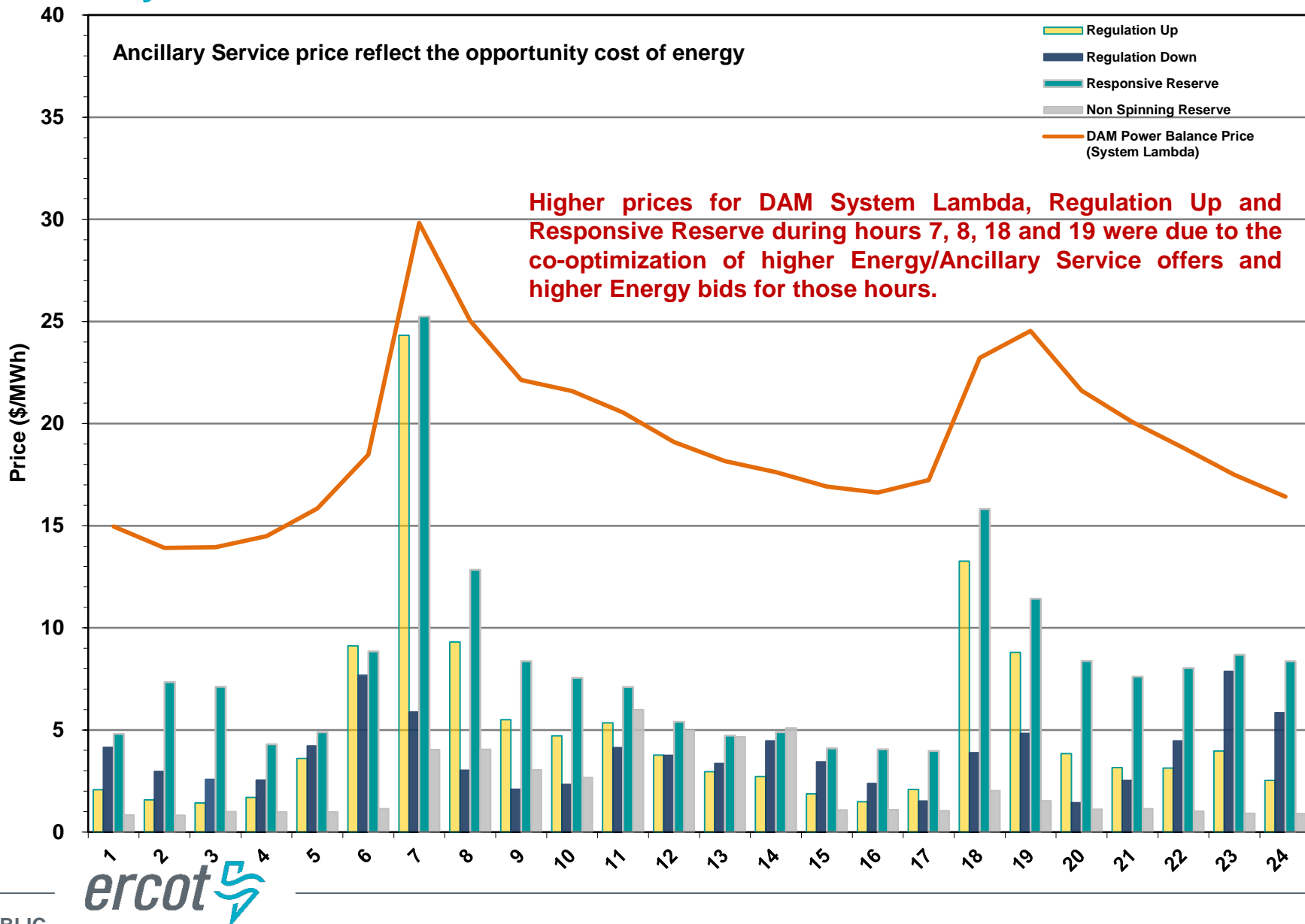


Market Operations

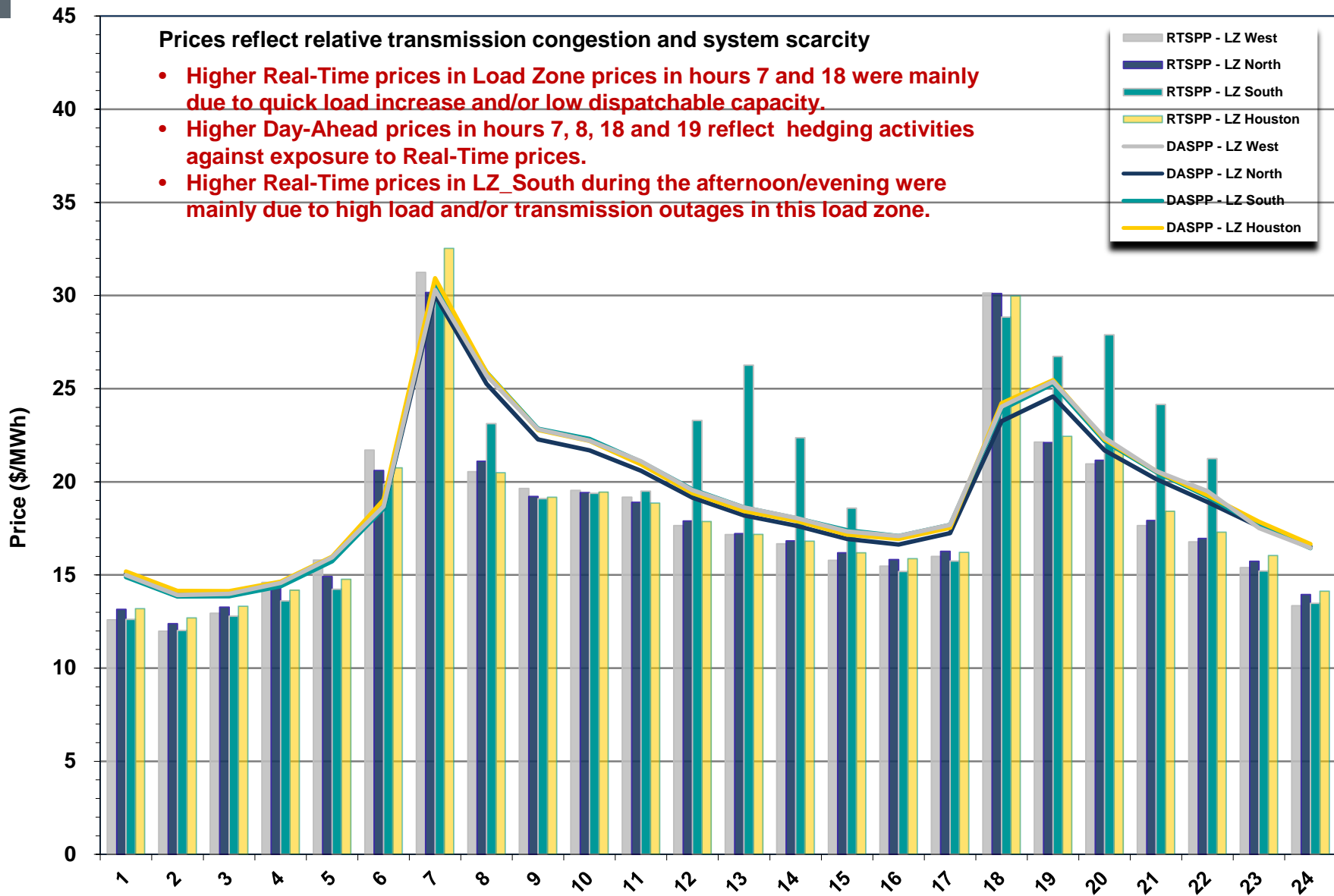
Day-Ahead Schedule (Hourly Average) – January 2016



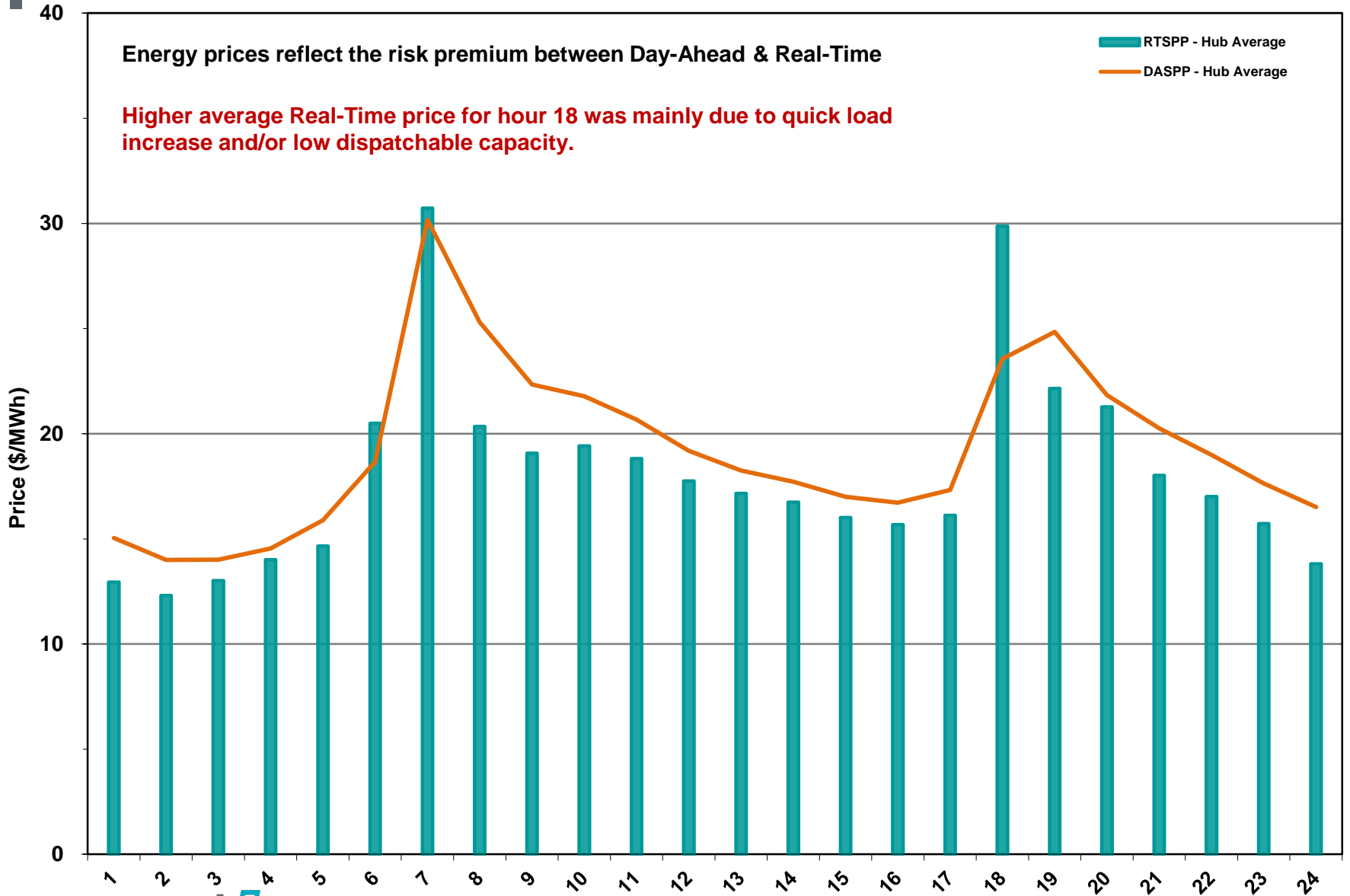
Day-Ahead Electricity And Ancillary Service Hourly Average Prices – January 2016



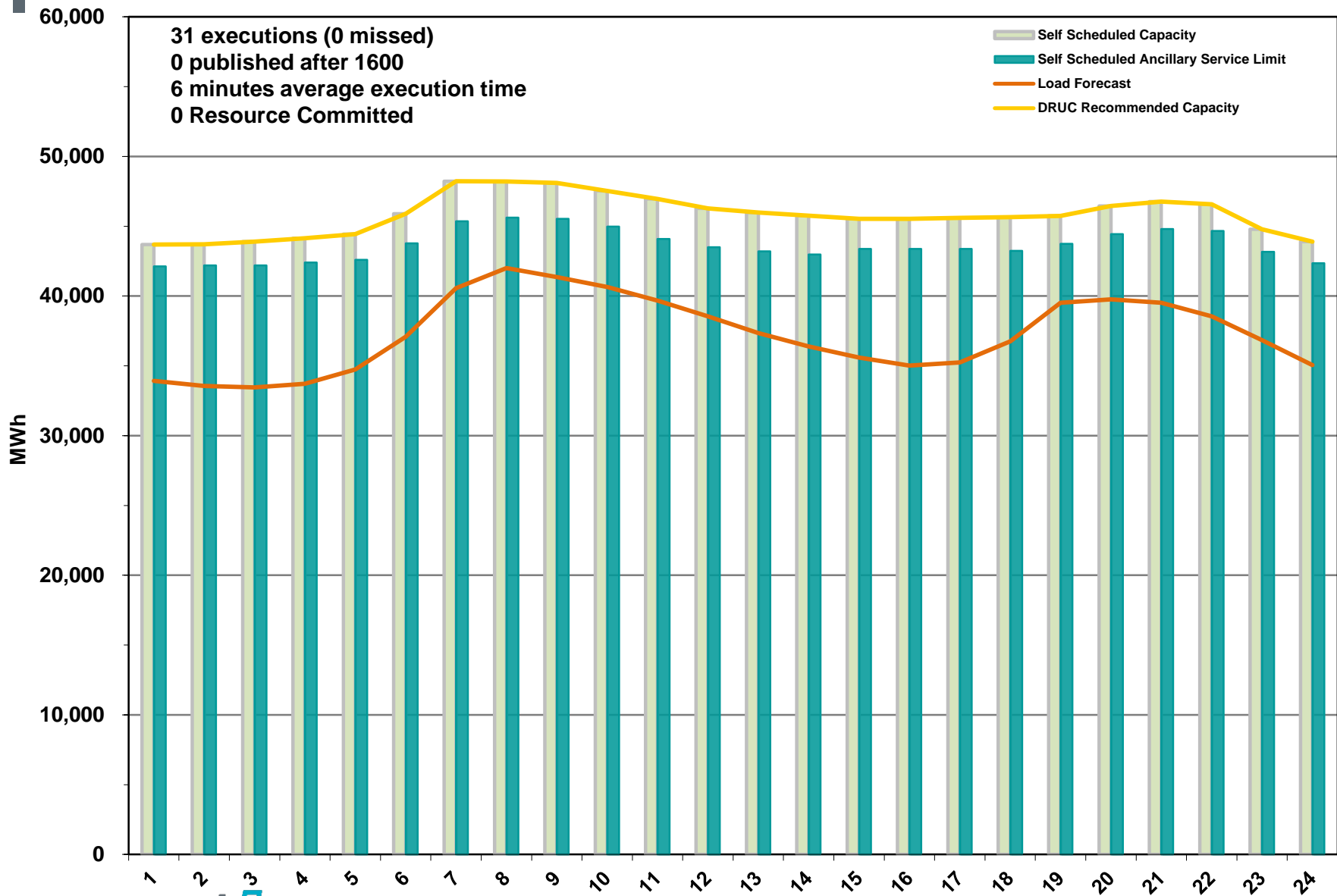
Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – January 2016



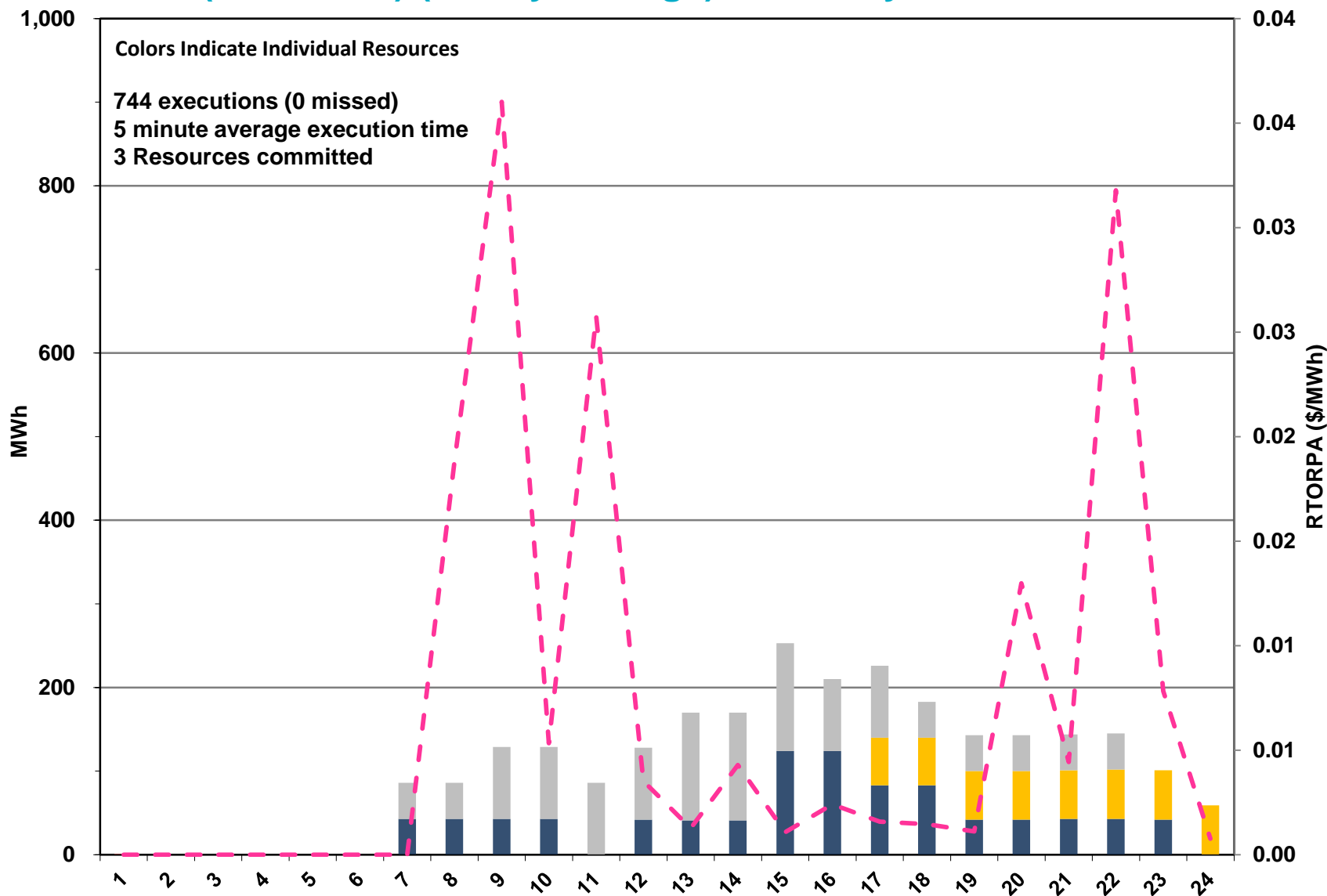
Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – January 2016



DRUC Monthly Summary (Hourly Average) – January 2016



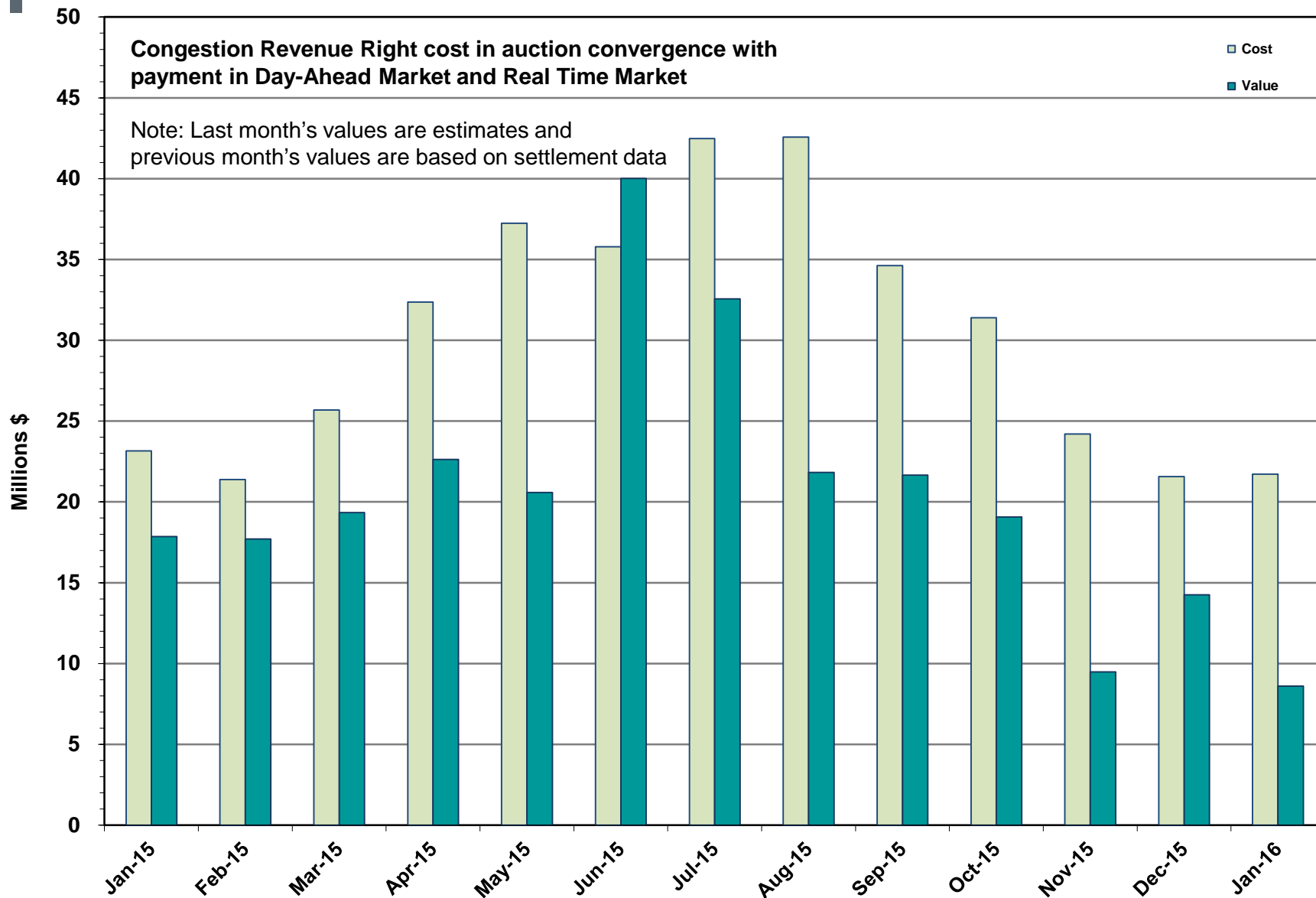
HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) (Hourly Average) – January 2016



Non-Spinning Reserve Service Deployment – January 2016

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

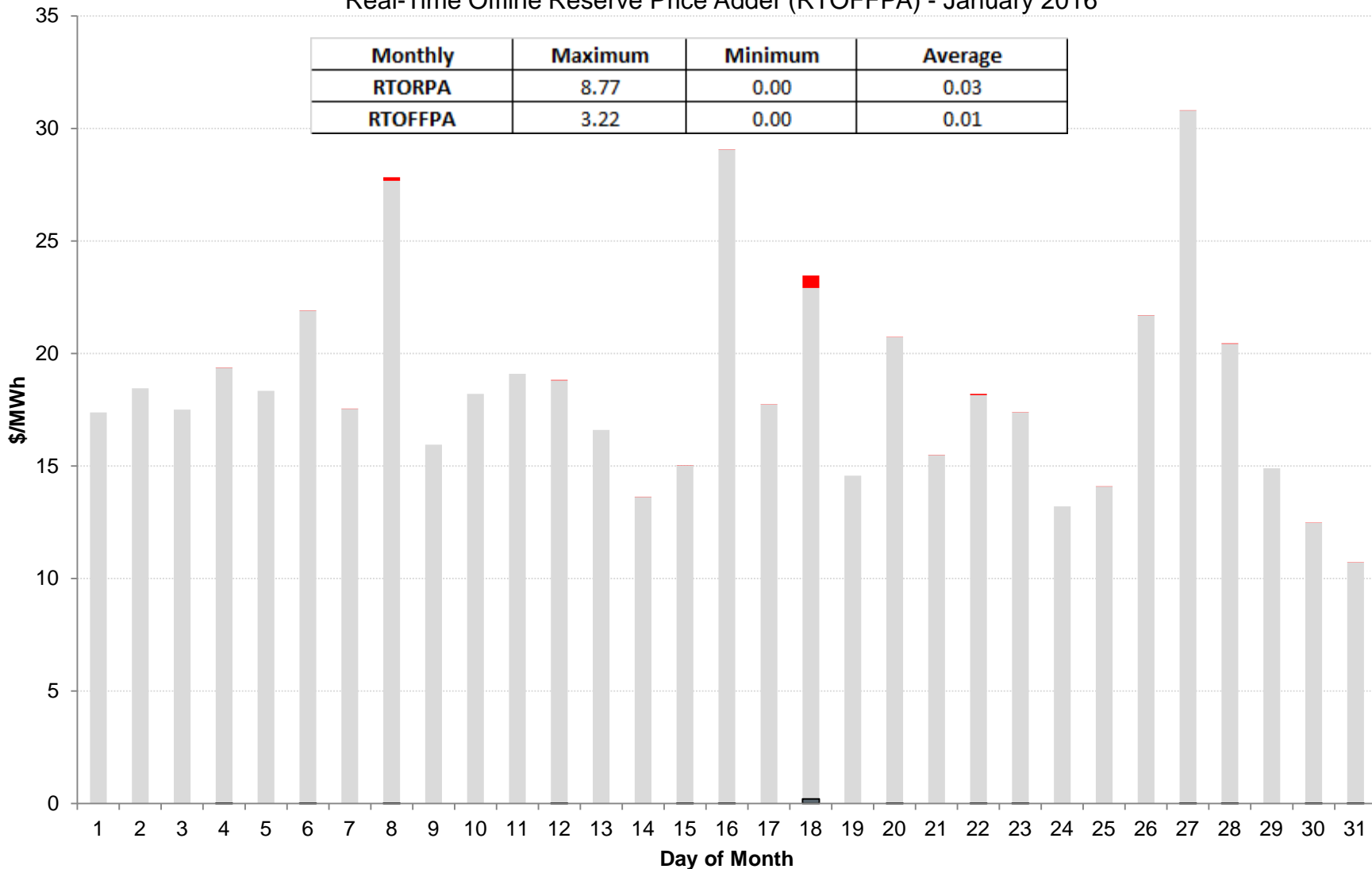
CRR Price Convergence – January 2016



ORDC Price Adder (Daily Average) – January 2016

Average Daily Real-Time System Lambda, Real-Time On-Line Reserve Price Adder (RTORPA), and Real-Time Offline Reserve Price Adder (RTOFFPA) - January 2016

Monthly	Maximum	Minimum	Average
RTORPA	8.77	0.00	0.03
RTOFFPA	3.22	0.00	0.01



■ AVERAGE_OF_SYSTEM_LAMBDA
 ■ AVERAGE_OF_RTORPA
 ■ AVERAGE_OF_RTOFFPA

ERS Procurement for – October 2015 - January 2016

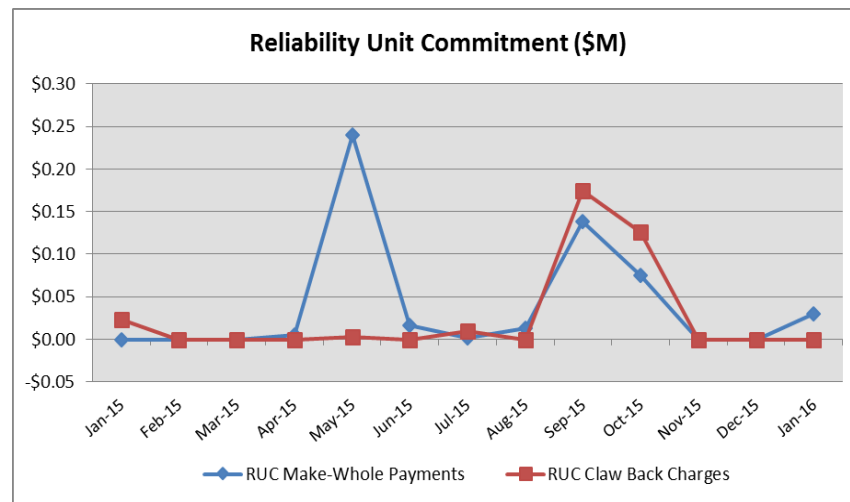
	BH1	BH2	BH3	NBH
Non Weather-Sensitive ERS-10 MW	372.082	416.611	390.329	349.300
Non Weather-Sensitive ERS-30 MW	546.023	563.297	550.152	433.297
Total MW Procured	918.105	979.908	940.481	782.597
Clearing Price	\$14.46	\$2.59	\$14.00	\$3.21

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 – January 2016

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.03)
RUC Clawback Charges	\$0.00
RUC Commitment Settlement	(\$0.03)
RUC Capacity Short Charges	\$0.03
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.03
RUC Decommitment Payments	\$0.00



RUC Make-Whole Payments were \$0.03M in January 2016.
RUC Clawback Charges were \$0.00M.

There was \$0.00M allocated directly to load in January 2016, compared to:

- \$0.00M in December 2015
- \$0.02M in January 2015

Capacity Services – January 2016

Capacity Services	\$ in Millions
Regulation Up Service	\$1.55
Regulation Down Service	\$0.89
Responsive Reserve Service	\$14.65
Non-Spinning Reserve Service	\$2.97
Black Start Service	\$0.64
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges	\$20.70

Capacity Services costs decreased from last month and increased from January 2015.

January 2016 cost was \$20.70M, compared to:

- A charge of \$33.24M in December 2015
- A charge of \$18.20M in January 2015

Energy Settlement – January 2016

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$281.99
Point to Point Obligation Purchases	\$7.37
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$279.93)
Day-Ahead Congestion Rent	\$9.43
Day-Ahead Market Make-Whole Payments	(\$0.04)

Day-Ahead Market and Real-Time Market energy settlement activity increased from last month and decreased from January 2015.

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$287.66)
Energy Imbalance at a Load Zone	\$416.32
Energy Imbalance at a Hub	(\$117.70)
Real Time Congestion from Self Schedules	\$1.34
Block Load Transfers and DC Ties	(\$0.56)
Impact to Revenue Neutrality	\$11.74
Emergency Energy Payments	(\$0.08)
Base Point Deviation Charges	\$0.14
Real-Time Metered Generation (MWh in millions)	27.45

Congestion Revenue Rights (CRR) – January 2016

	\$ in Millions
Annual Auction	(\$17.00)
Monthly Auction	(\$3.34)
Total Auction Revenue	(\$20.34)
Day-Ahead CRR Settlement	(\$8.60)
Day-Ahead CRR Short-Charges	\$0.48
Day-Ahead CRR Short-Charges Refunded	(\$0.48)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
Total CRR Funding	(\$8.60)
Day-Ahead Point to Point Obligations Settlement	\$7.37
Real-Time Point to Point Obligation Settlement	(\$15.59)
Net Point to Point Obligation Settlement	(\$8.22)

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 \$8.22M compared to a net credit of \$9.05M last month.

CRR Balancing Account Fund – January 2016

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$1.32
CRR PTP Option Award Charges	\$0.05
Day-Ahead CRR Short-Charges Refunded	(\$0.48)
Load Allocated CRR Amount	(\$0.90)
Total Fund Amount	\$10.00

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

In the month of January 2016, the fund cap remained at \$10M and excess funds of \$0.90M were allocated to Load.

Revenue Neutrality – January 2016

Revenue Neutrality Settlement

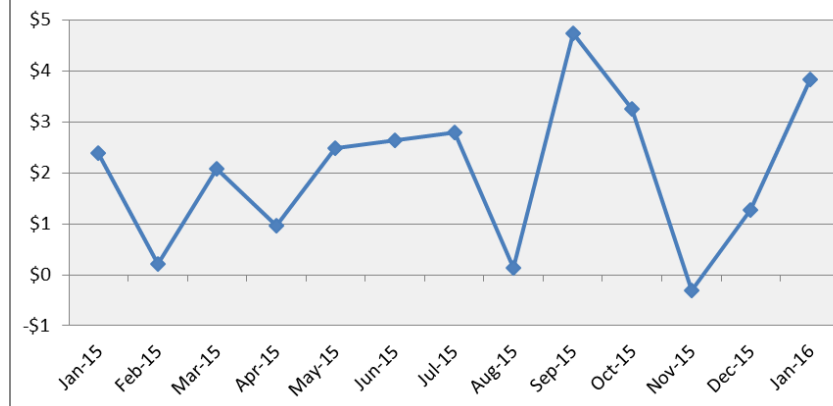
	\$ in Millions
Real-Time Point to Point Obligation Settlement	(\$15.59)
Real-Time Point to Point Options and Options with Refund Settlement	\$0.00
Real-Time Energy Imbalance Settlement	\$10.96
Real-Time Congestion from Self-Schedules Settlement	\$1.34
DC Tie & Block Load Transfer Settlement	(\$0.56)
Charge to Load	\$3.85

Revenue Neutrality charges to load increased compared to last month and to January 2015.

January 2016 was a charge of \$3.85M, compared to:

- \$1.27M charge in December 2015
- \$2.39M charge in January 2015

Revenue Neutrality Uplift (\$M)



Real-Time Ancillary Service Imbalance (ORDC) – January 2016

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance Payment Amount	(\$35.95)
Load Allocated AS Imbalance Revenue Neutrality Amount	\$35.94
Total Charges	\$35.94

In January 2016, total credits to QSEs w/an Ancillary Service Imbalance were \$ 35,945, while total credits in December 2015 were \$14,837.

15 of the 31 days in January 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 January 18th in the amount of \$23,307.

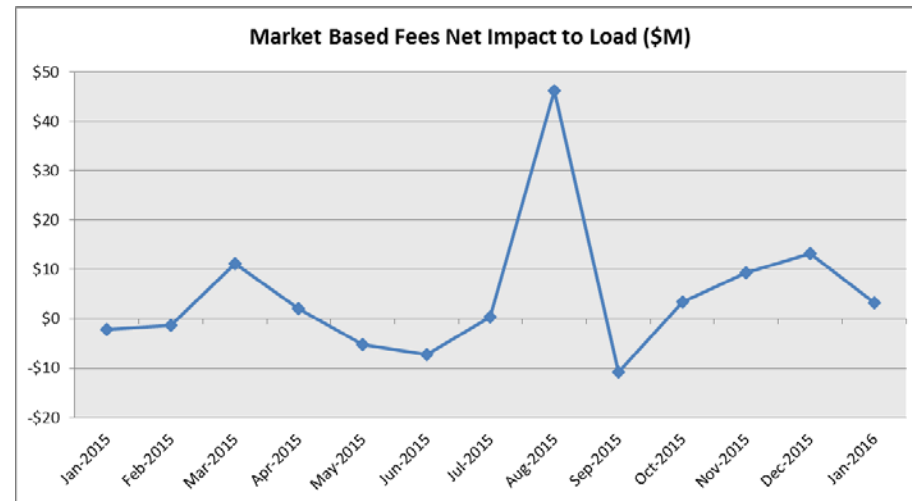
Net Allocation to Load – January 2016

Market-Based Allocation	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$20.34)
Balancing Account Proceeds Settlement	(\$0.90)
Net Reliability Unit Commitment Settlement	\$0.00
Ancillary Services Settlement	\$20.70
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$3.85
Emergency Energy Settlement	\$0.08
Base Point Deviation Settlement	(\$0.14)
ORDC Settlement	\$0.04
Total	\$3.29
Fee Allocation	
ERCOT Administrative Fee Settlement	\$15.29
Net Allocated to Load	\$18.58

The charge for the net allocation to Load decreased from last month and increased from January 2015.

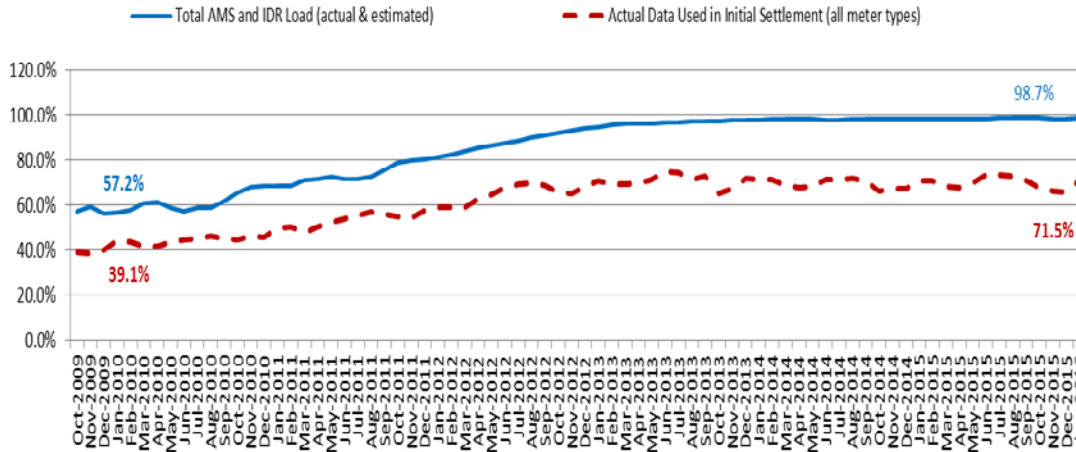
January 2016 was a charge of \$18.58M, compared to:

- A charge of \$25.20M in December 2015
- A charge of \$11.19M in January 2015



Advanced Meter Settlement Impacts – January 2016

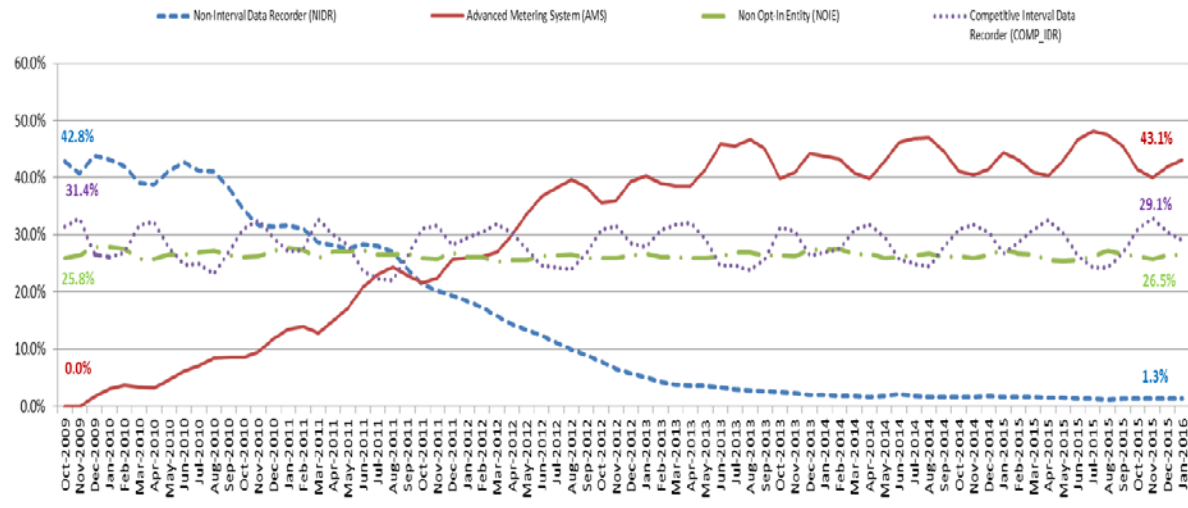
Percent Actual/Percent Interval Data Recorder (IDR)



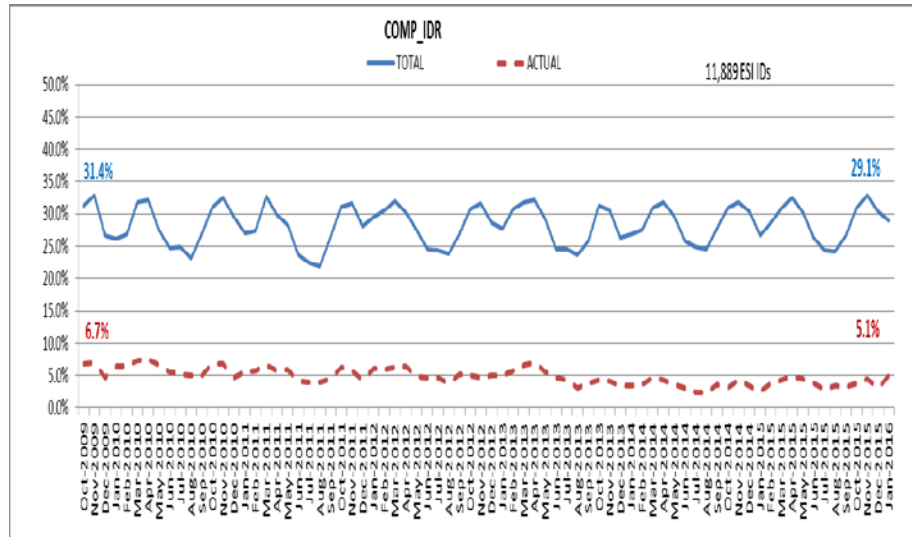
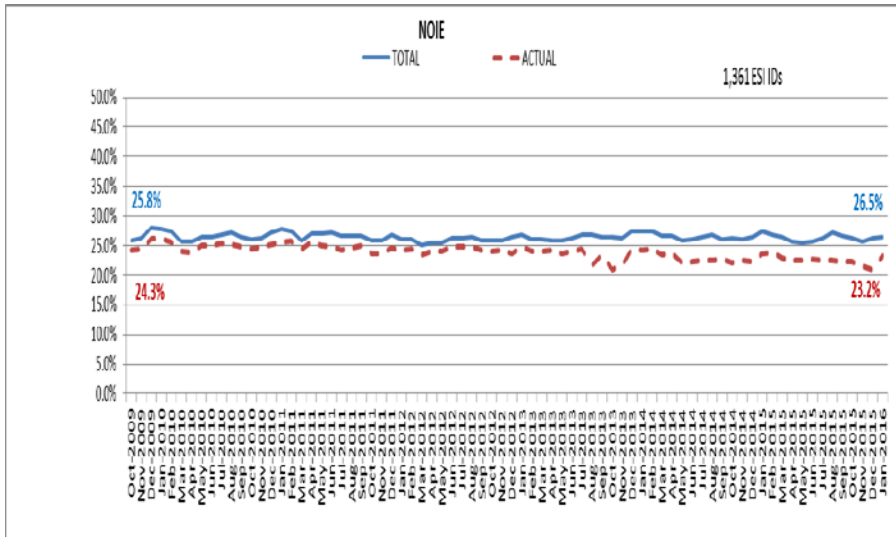
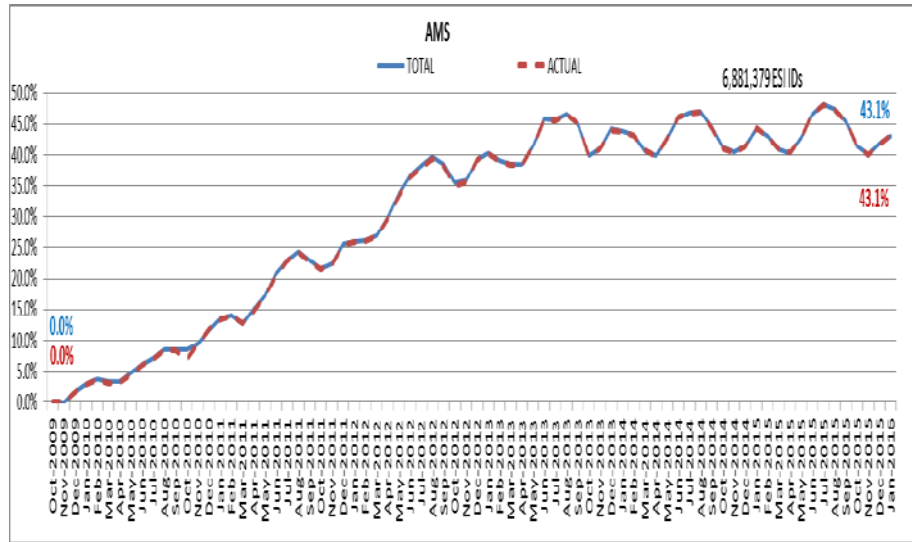
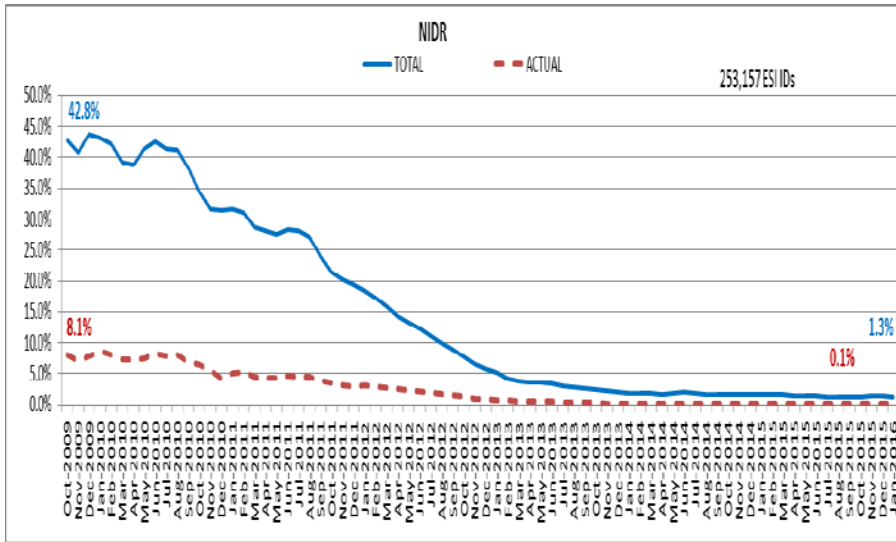
January 2016: At month end, settling 6.8M ESIIDs using Advanced Meter data.

January 2016: 98.7% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

Percent of Load by Meter Type



ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – January 2016

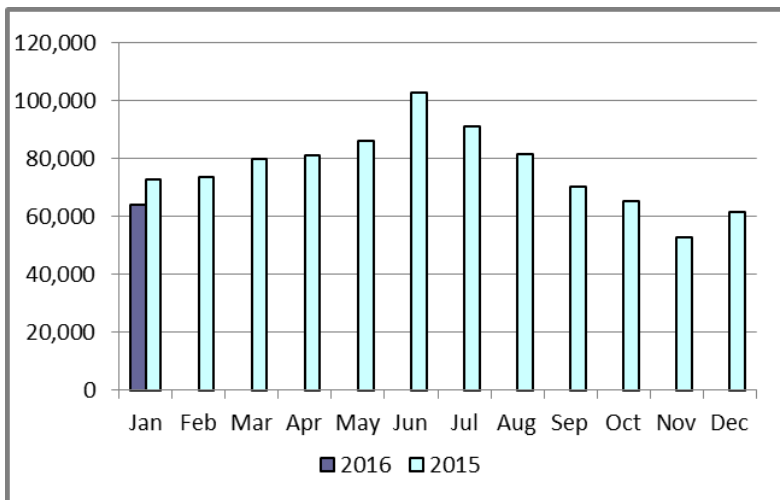


Retail Transaction Volumes – Summary – January 2016

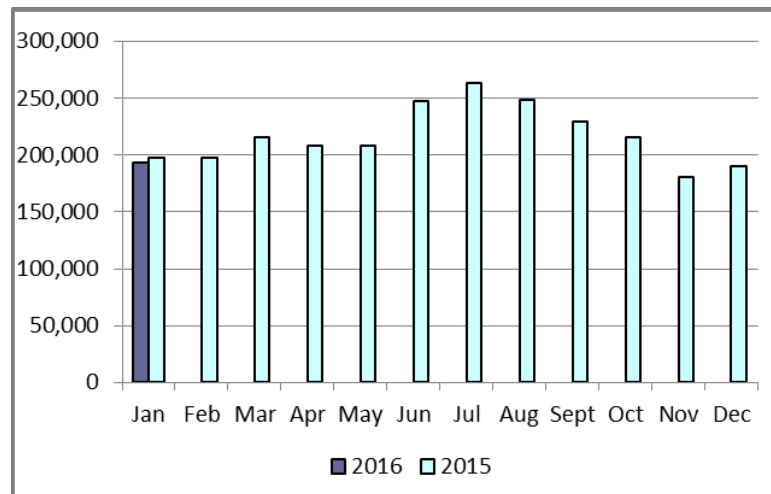
Transaction Type	Year-To-Date		Transactions Received	
	January 2016	January 2015	January 2016	January 2015
Switches	63,954	72,885	63,954	72,885
Acquisition	0	0	0	0
Move - Ins	197,716	198,025	197,716	198,025
Move - Outs	96,628	98,233	96,628	98,233
Continuous Service Agreements (CSA)	42,179	40,420	42,179	40,420
Mass Transitions	0	0	0	0
Total	396,477	409,563	396,477	409,563

Retail Transaction Volumes – Summary – January 2016

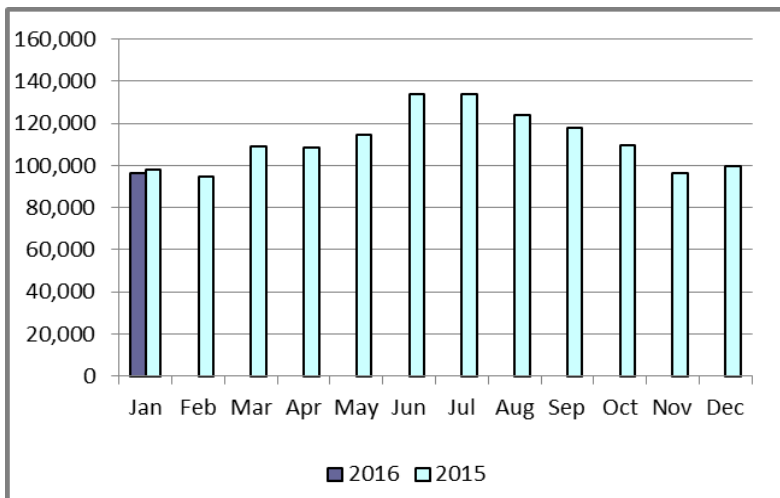
Switches/Acquisitions



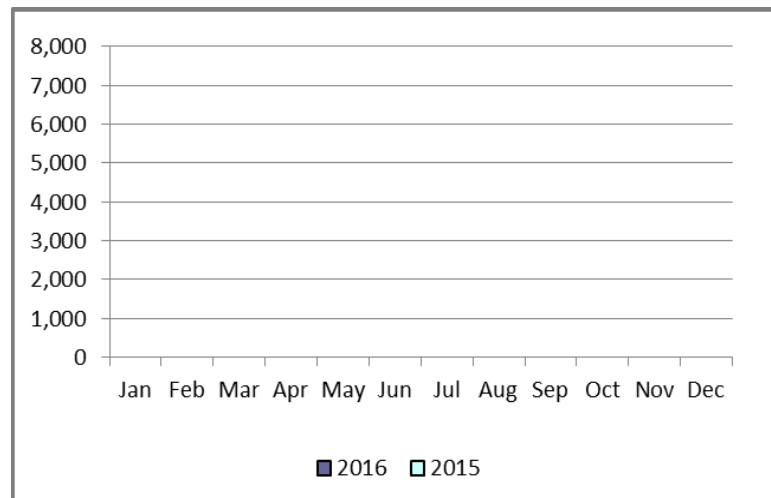
Move-Ins



Move-Outs

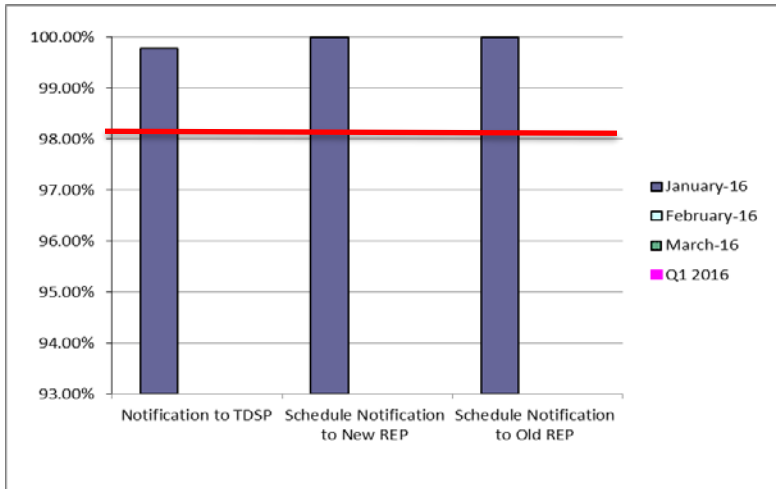


Mass Transition



Retail Performance Measures – Switch – January 2016

1st Quarter



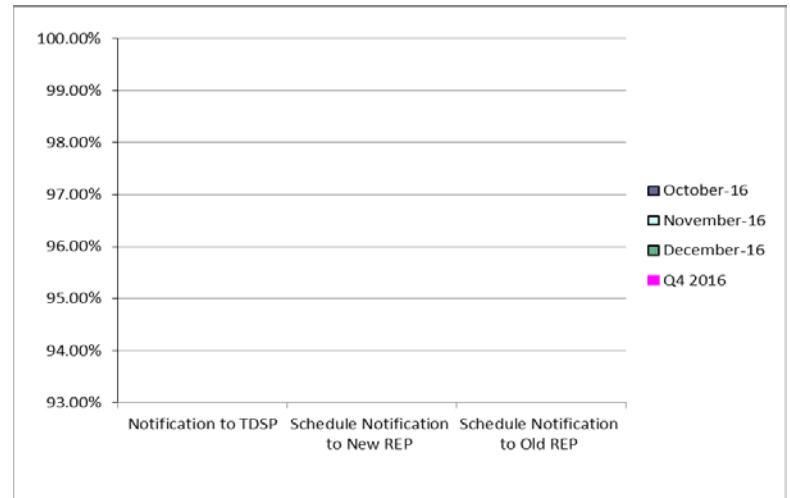
2nd Quarter



3rd Quarter

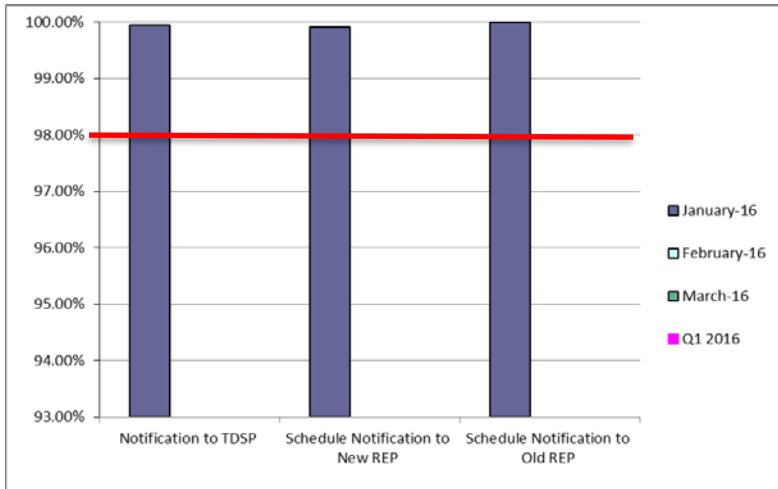


4th Quarter



Retail Performance Measures – Same Day Move-In – January 2016

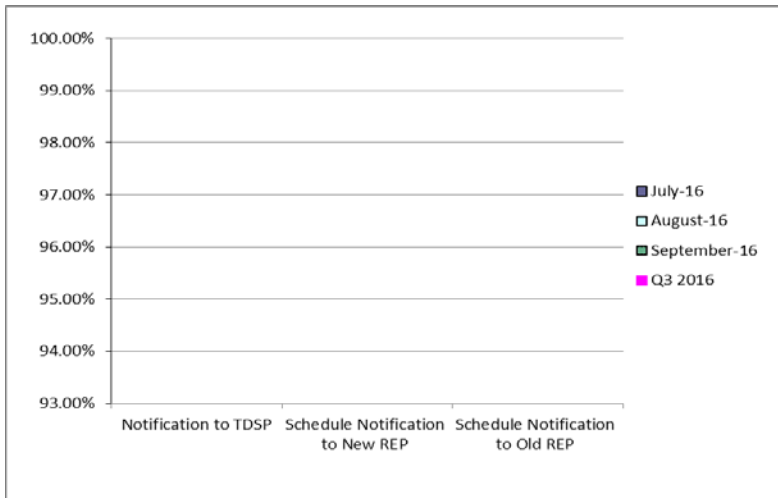
1st Quarter



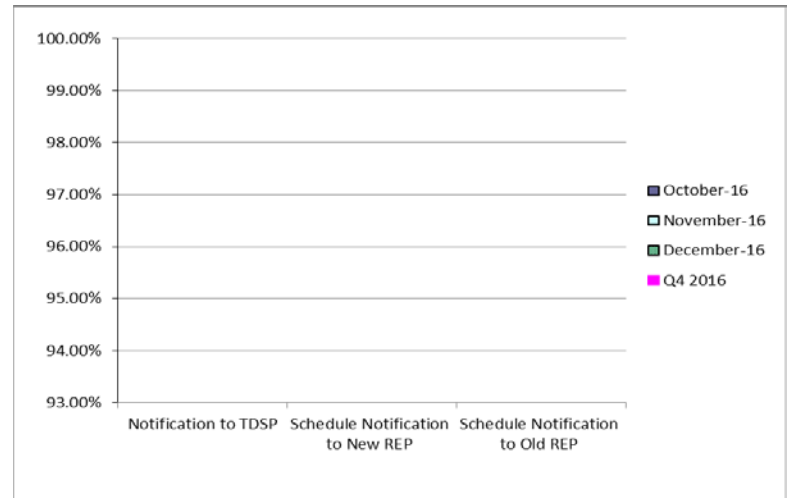
2nd Quarter



3rd Quarter

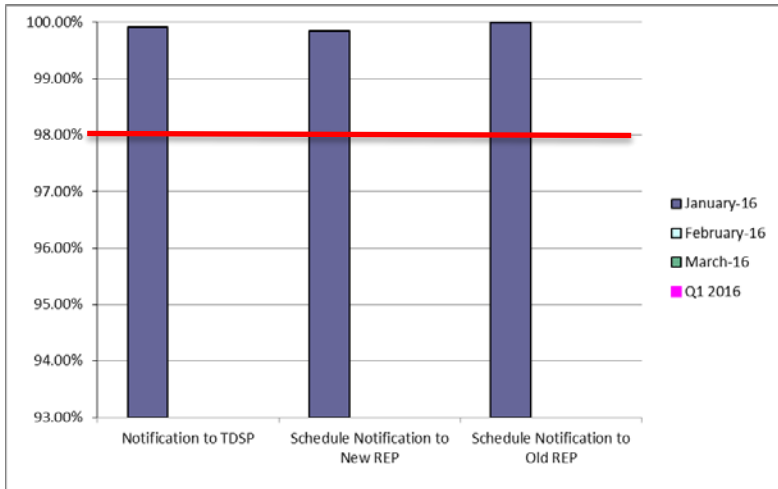


4th Quarter



Retail Performance Measures – Standard Move-In – January 2016

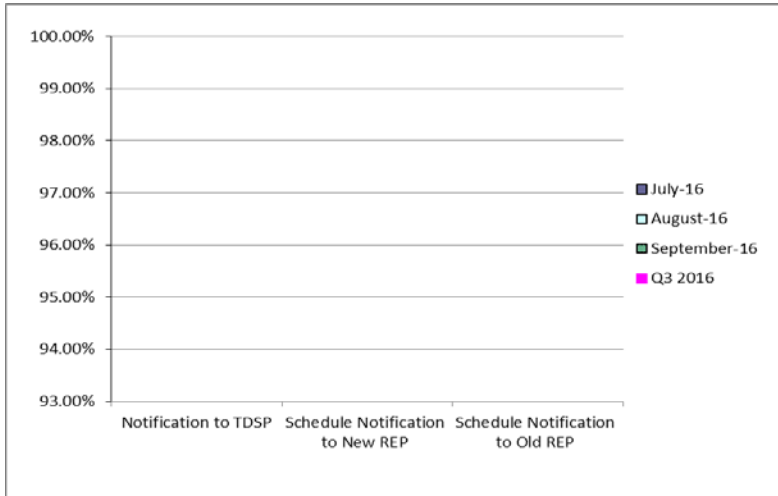
1st Quarter



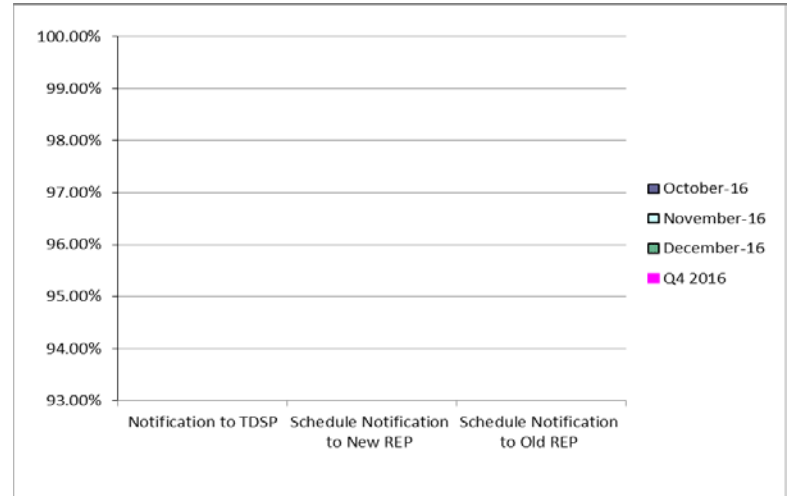
2nd Quarter



3rd Quarter



4th Quarter



Projects Report

ERCOT Portfolio Stoplight Report – January 2016

Impact Metric Tolerances		2016 Project Funding	\$ 22,500,000	2016 Portfolio Spending Estimate					
Unfavorable variances are represented as negative numbers within the 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 In Flight/On Hold (Count = 57)		\$ 21,179,573		Note: Approximately \$1.75M in PPL spending was accelerated from 2016 to 2015. This spending is being offset by equivalent reductions in 2016.			
		Projects Not Yet Started (Count = 21)		\$ 2,830,563					
		Projects Completed (Count = 5)		\$ 46,715					
		Carryover of Excess 2015 Project Spending		\$ 1,743,545					
		Spending Reductions Required to Maintain Capital Budget		\$ (3,300,396)					
Project Number	Projects in Initiation Phase (Count = 2)	TOTAL		\$ 22,500,000					
RMGRR126	Additional ERCOT Validations for Customer Billing Contact Information File								
188-01	Mass Transition/Acquisition Enhancements (MTAQ)								
Project Number	Projects in Planning Phase (Count = 24)	Baseline Phase Start	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Budget Impact	
DC4	DC4 Program Control	9/9/2015	3/30/2016	TBD	3/30/2016		0%		0%
DC4	DC4 - Compute DB Inf Install and Migration	12/2/2015	3/16/2016	TBD	3/16/2016		0%		0%
DC4	DC4 - Compute DB Inf Install and Migration Stage 1	12/2/2015	3/16/2016	TBD	3/16/2016		0%	NA	See DC4 Compute DB
ECAP	ECAP - Enterprise Content Management System (Proof of Concept)	1/13/2016	5/17/2016	TBD	5/17/2016		0%		7%
ECAP	ECAP - ERCOT Information Governance and Taxonomy	1/13/2016	6/6/2016	TBD	6/8/2016		-1%		11%
ECAP	ECAP - ERCOT Identity Alignment	2/3/2016	2/24/2016	TBD	2/16/2016		38%		0%
158-01	Load Forecast Enhancements	1/14/2015	6/19/2015	TBD	6/15/2016	2	-232%	2	-160%
172-01	Physical Security Project #2	8/27/2015	6/8/2016	TBD	6/8/2016		0%		3%
173-01	ERCOT Flight Certification Website	7/23/2015	3/30/2016	TBD	3/21/2016		3%		0%
177-01	Cyber Security Project #19	10/19/2015	3/9/2016	TBD	3/9/2016		0%		2%
180-01	Mobile Device Management (MDM) – GEMS	11/25/2015	3/30/2016	TBD	3/30/2016		0%		11%
181-01	CRR Framework Upgrade	12/16/2015	5/4/2016	TBD	5/4/2016		0%		4%
183-01	CMM Tech Refresh	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs
185-01	Records Management and eDiscovery	1/28/2016	8/31/2016	TBD	8/31/2016		0%		1%
TBD	Enterprise Resource Planning	12/16/2015	2/10/2016	TBD	2/10/2016		0%		0%
Various	2015 CMM NPRRs	12/16/2015	8/17/2016	TBD	8/17/2016		0%		42%
SCR777	Bilateral CRR Interface Enhancement	1/28/2016	8/31/2016	TBD	8/31/2016		0%		46%
NPRR439	Updating a Counter-Party's Available Credit Limit for Current Day DAM	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments - Phase 1b / 2	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs
NPRR519	Exemption of ERS-Only QSEs from Collateral and Capitalization Requirements	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs
NPRR620	Collateral Requirements for Counter-Parties with No Load or Generation	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs
NPRR662	Proxy Energy Offer Curves	1/13/2016	2/29/2016	TBD	2/29/2016		0%		0%
NPRR683	Revision to Available Credit Limit Calculation	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs
NPRR702	Flexible Accounts, Payment of Invoices, and Disposition of Interest on Cash Collateral	12/16/2015	8/17/2016	TBD	8/17/2016		0%	NA	See 2015 CMM NPRRs



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Project Number	Projects in Execution Phase (Count = 22)	Baseline Phase Start	Baseline Go-Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Budget Impact	
052-01	EMS Upgrade	9/24/2014	5/25/2016	5/26/2016	11/1/2016		0%		7%
065-01	NMMS Upgrade	12/17/2014	9/22/2016	9/22/2016	10/31/2016		0%		3%
116-01	Collage Replacement	2/6/2014	9/22/2014	2/11/2016	4/7/2016	2	-222%	2	-114%
120-01	IT Production Hardening	5/21/2015	4/1/2016	4/8/2016	4/26/2016		-2%		27%
161-01	NPRRs 588 and 615	9/16/2015	2/19/2016	2/9/2016	3/30/2016		6%		1%
169-01	Short Circuit Ratio Functionality	1/20/2016	9/19/2016	9/19/2016	9/30/2016		0%		1%
170-01	Enterprise Content Alignment Program	8/26/2015	1/5/2016	1/5/2016	11/15/2017		0%		0%
171-01	CIP v5 Readiness Project	7/22/2015	4/29/2016	3/31/2016	3/31/2016		10%		-2%
174-01	2015 Outage Scheduler Enhancements	12/2/2015	9/14/2016	9/22/2016	10/21/2016		-2%		0%
179-01	Infoblox Hardware Refresh	2/4/2016	8/12/2016	8/12/2016	8/12/2016		0%		0%
187-00	Capital Efficiencies and Enhancements - 2016	1/1/2015	12/31/2016	12/31/2016	12/31/2016		0%		0%
Various	NPRR617 and 700 Implementation	1/27/2016	6/16/2016	6/16/2016	8/10/2016		0%		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	12/2/2015	9/14/2016	9/22/2016	10/21/2016		-2%	NA	See #174-01
NPRR419	Revise Real Time Energy Imbalance and RMR Adjustment Charge	1/13/2016	4/5/2016	4/7/2016	6/6/2016		-2%		-2%
NPRR515	Day-Ahead Market Self-Commitment of Generation Resources	10/5/2015	3/31/2016	3/8/2016	3/8/2016		12%		0%
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	2/9/2016	3/30/2016		6%	NA	See #161-01
NPRR615	PVGR Forecasting	9/16/2015	2/19/2016	2/9/2016	3/30/2016		6%	NA	See #161-01
NPRR617	Energy Offer Flexibility	1/27/2016	6/16/2016	6/16/2016	8/10/2016		0%	NA	See NPRR617 / NPRR700
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%	NA	0%
NPRR700	Utilizing Actual Fuel Costs in Startup Offer Caps	1/27/2016	6/16/2016	6/16/2016	8/10/2016		0%	NA	See NPRR617 / NPRR700
SCR783	Outage Scheduler Enhancements – Group 2, Usability and Filtering Enhancements	12/2/2015	9/14/2016	9/22/2016	10/21/2016		-2%	NA	See #174-01

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Project Number	Projects in Stabilization (Count = 3)	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Schedule Impact		Budget Impact	
143-01	OSI Pi Visualization Enhancements	1/16/2015	6/19/2015	1/22/2016	2/18/2016	1	-140%		-3%
144-01	OC-48 Replacement with DWDM	2/4/2015	12/22/2015	1/12/2016	2/24/2016	1	-6%		1%
168-01	Configuration Management System Requirements for CIP v5 Readiness	7/6/2015	12/16/2015	12/16/2015	2/29/2016		0%		-3%
Project Number	Projects On Hold (Count = 6)	Forecast Start Date	Baseline Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Impact		Budget Impact	
SCR781	MP Online Data Entry - Market Requirements	8/20/2014	11/28/2014	TBD	TBD	3		3	See #106-01
NPRR573	Alignment of PRC Calculation	TBD	TBD	TBD	TBD	3		3	
106-01	MP Online Data Entry - Ph 1	10/9/2013	3/5/2014	TBD	TBD	3		3	
129-01	Access and Roles Management	7/1/2014	10/1/2014	TBD	TBD	3		3	
141-01	Production Virtualization	11/6/2014	11/18/2015	TBD	TBD	3		3	
166-01	Jboss Application Monitoring & Management (JAMM)	TBD	TBD	TBD	TBD	3		3	
Project Number	Projects Completed (Count =5)	Baseline Execution Phase Start	Baseline Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Status		Total Variance	
NPRR556	Resource Adequacy During Transmission Equipment Outage	9/21/2015	10/23/2015	10/23/2015	12/10/2015		0%		17%
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%		15%
134-01	Privileged Account Management	4/1/2015	9/30/2015	9/30/2015	1/27/2016		0%		13%
163-01	Cyber Security Project #10	7/1/2015	9/15/2015	9/22/2015	12/16/2015	1	-9%		9%
165-00	Capital Efficiencies and Enhancements - 2015	1/1/2015	12/31/2015	12/31/2015	12/31/2015		0%		42%

Footnotes

- 1 - One or more phases took longer than expected, resulting in additional 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
- NA - Metric not calculated because:
 - it is reported at the parent project level, or
 - it is an administrative project

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Project Number	2016 Projects Not Yet Started (Count = 21)	Forecast Start Date
TBD	GINR Project Status Application Replacement	Feb-2016
NPRR272	Definition and Participation of Quick Start Generation Resources	Mar-2016
NPRR495	Changes to Ancillary Services Capacity Monitor	Mar-2016
NPRR714	Real-Time Make-Whole Payment for Exceptional Fuel Cost	Mar-2016
NPRR736	Updates to the Ancillary Service Capacity Monitor Display	Mar-2016
TBD	Appworx Replaces TIBCO Code in CSI Framework	Mar-2016
TBD	CREZ Voltage Control and Coordination - Phase 2	Mar-2016
TBD	EIF Database Utilization	Mar-2016
TBD	SharePoint Governance Project	Mar-2016
RRGRR003	Modifications to Improve Wind Forecasting	Apr-2016
RRGRR006	Clarification of Descriptions and Alignment with Resource Asset Registration Forms	Apr-2016
RRGRR007	Adding Solar Resource Registration Inputs	Apr-2016
TBD	Replace Paperfree	Apr-2016
TBD	UC4 Automation Upgrade v9	Apr-2016
TBD	REC Rewrite & Refresh	May-2016
NPRR210	Wind Forecasting Change to P50, Sync with PRR841	Jun-2016
NOGRR084	Daily Grid Operations Summary Report	Jul-2016
TBD	Automation of NPRR487 - QSGR Dispatch Adjustment	Jul-2016
TBD	Emergency Energy Settlements Inputs Automation	Jul-2016
TBD	Replace Sun DSEE	Jul-2016
DC4	DC4 - Compute DB Inf Install and Migration Stage 2	Jul-2016