



ERCOT Monthly Operational Overview (May 2016)

ERCOT Public
June 15, 2016

Grid Planning & Operations

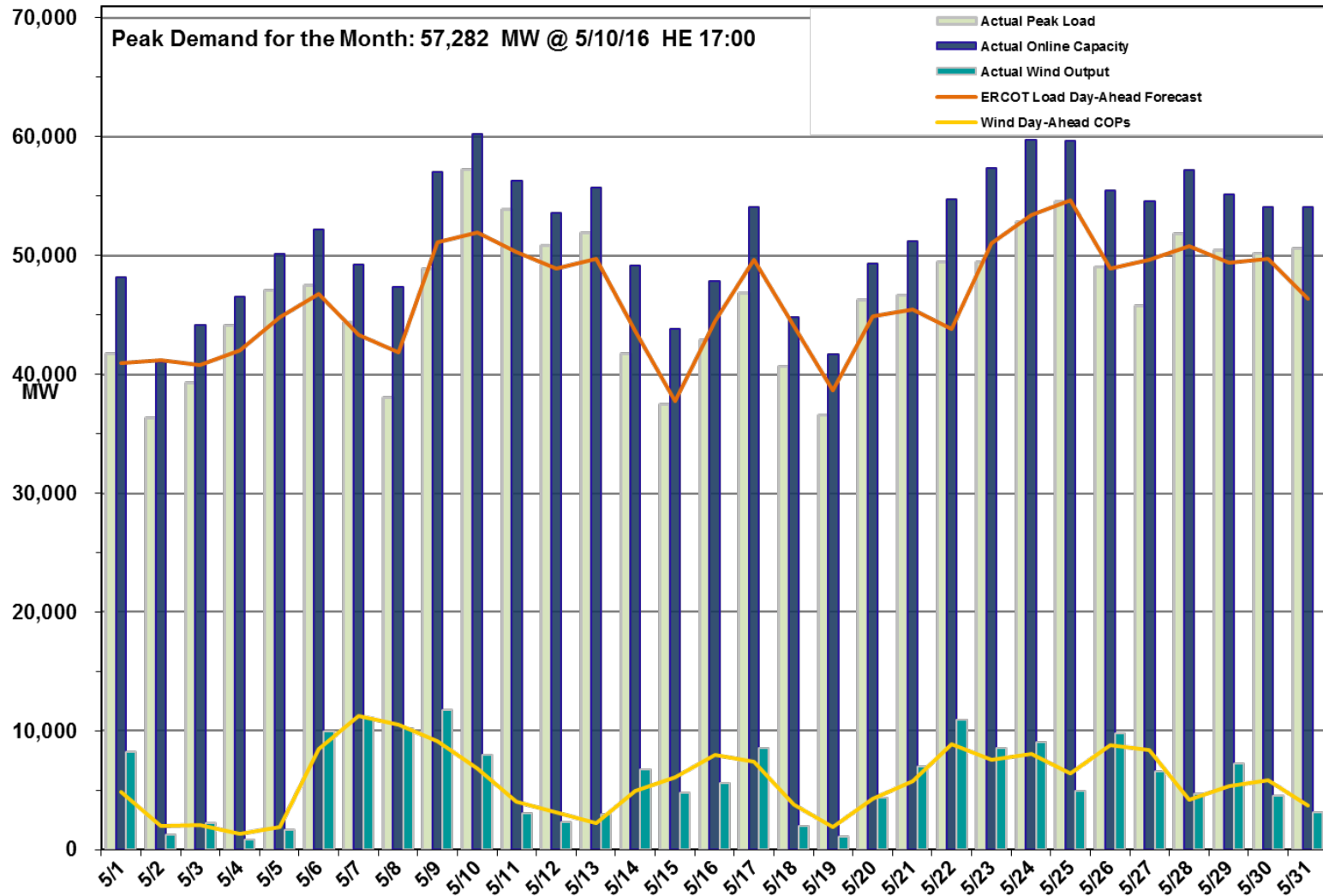
Operations

- The peak demand of 57,282 MW on May 10th was greater than the day-ahead mid-term forecast peak of 51,947 MW of the same operating period. In addition, it was greater than the May 2015 actual peak demand of 53,311 MW. The instantaneous peak load on May 10th was 57,559 MW.
- Day-ahead load forecast error for May was 3.86%
- ERCOT issued five notifications
 - Two advisories issued due to a GMD alert of K7.
 - Two advisories issued due to ERCOT's Voltage Security Assessment Tool being unavailable.
 - One Transmission Emergency Notice issued for the Rio Grande Valley due to the Valley Import

Planning Activities

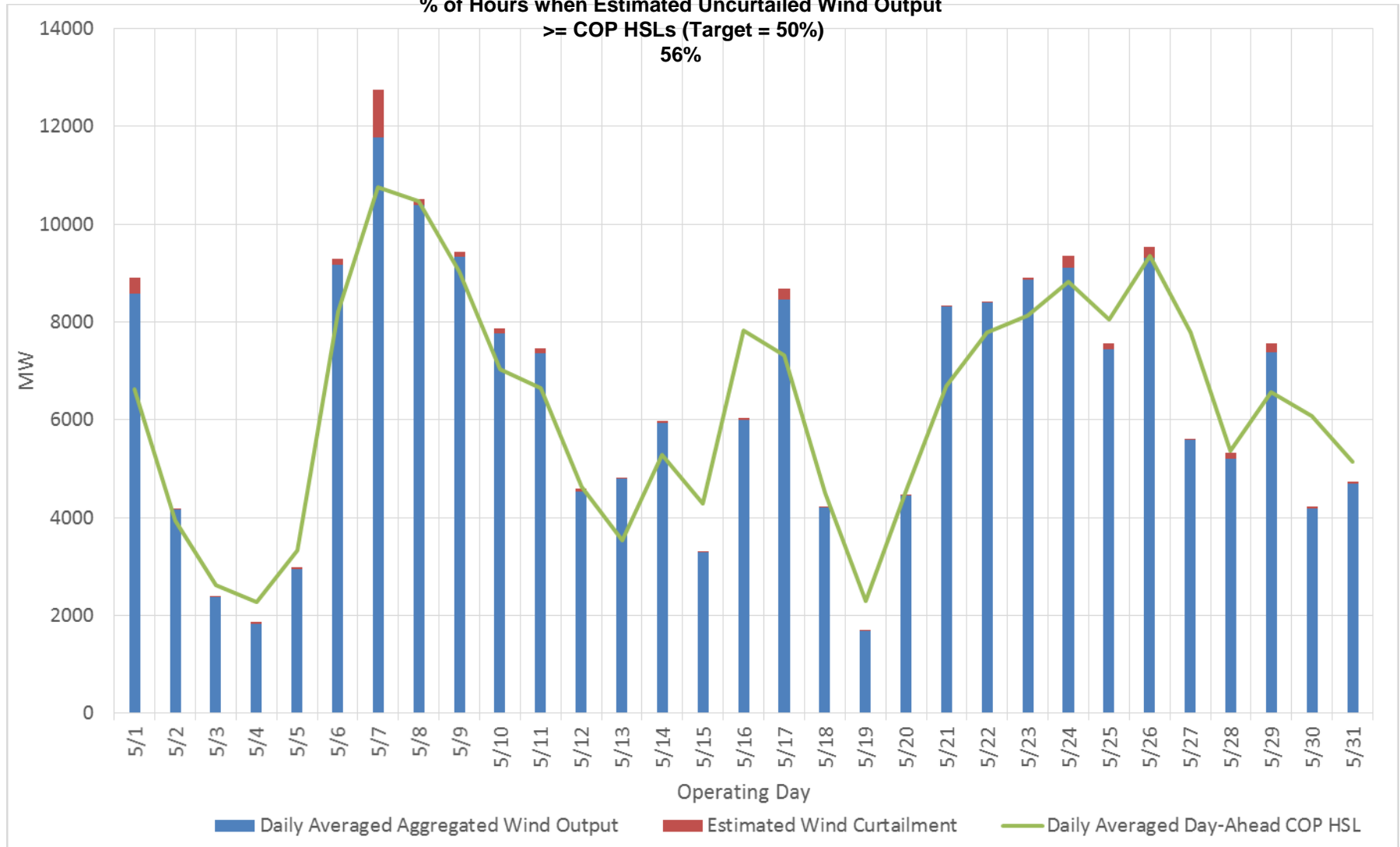
- 236 active generation interconnection requests totaling 56,751 MW, including 25,304 MW of wind generation, as of May 31, 2016. Five fewer requests yet an increase of 172 MW from April 30, 2016.
- 16,129 MW wind capacity in commercial operations on May 31, 2016.

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

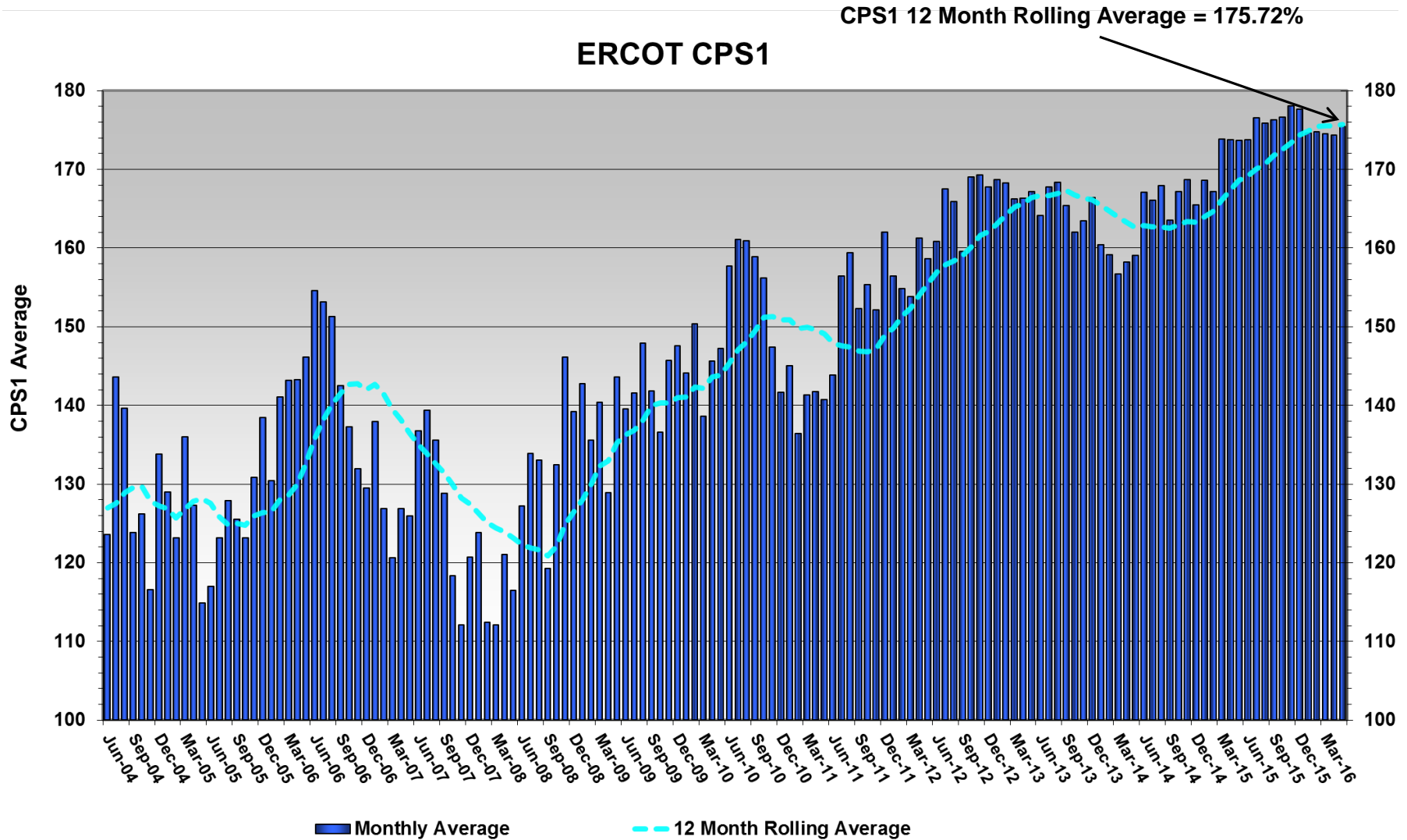


Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – May 2016

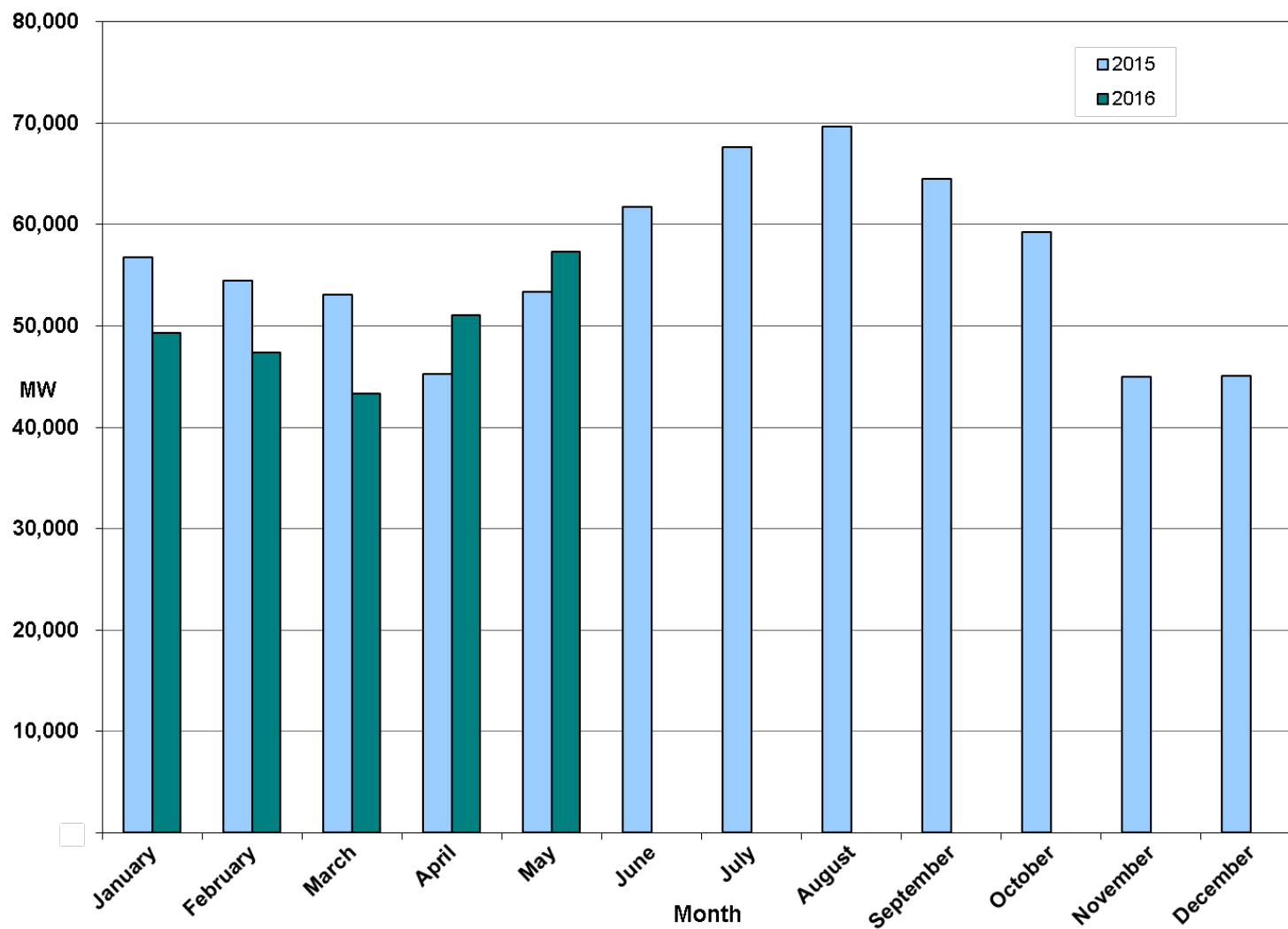
% of Hours when Estimated Uncurtailed Wind Output
≥ COP HSLs (Target = 50%)
56%



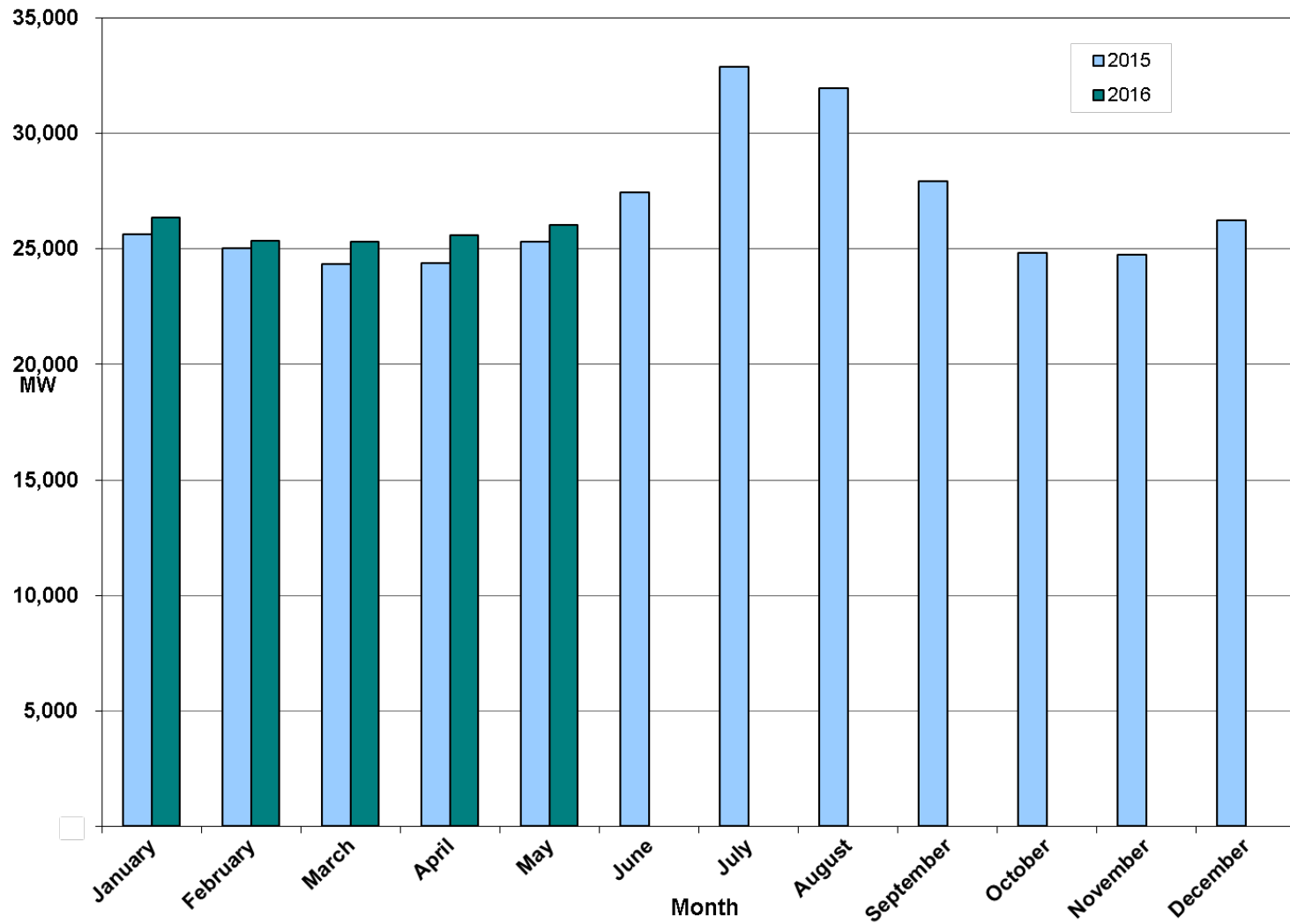
ERCOT's CPS1 Monthly Performance – May 2016



Monthly Peak Actual Demand – May 2016



Monthly Minimum Actual Demand – May 2016

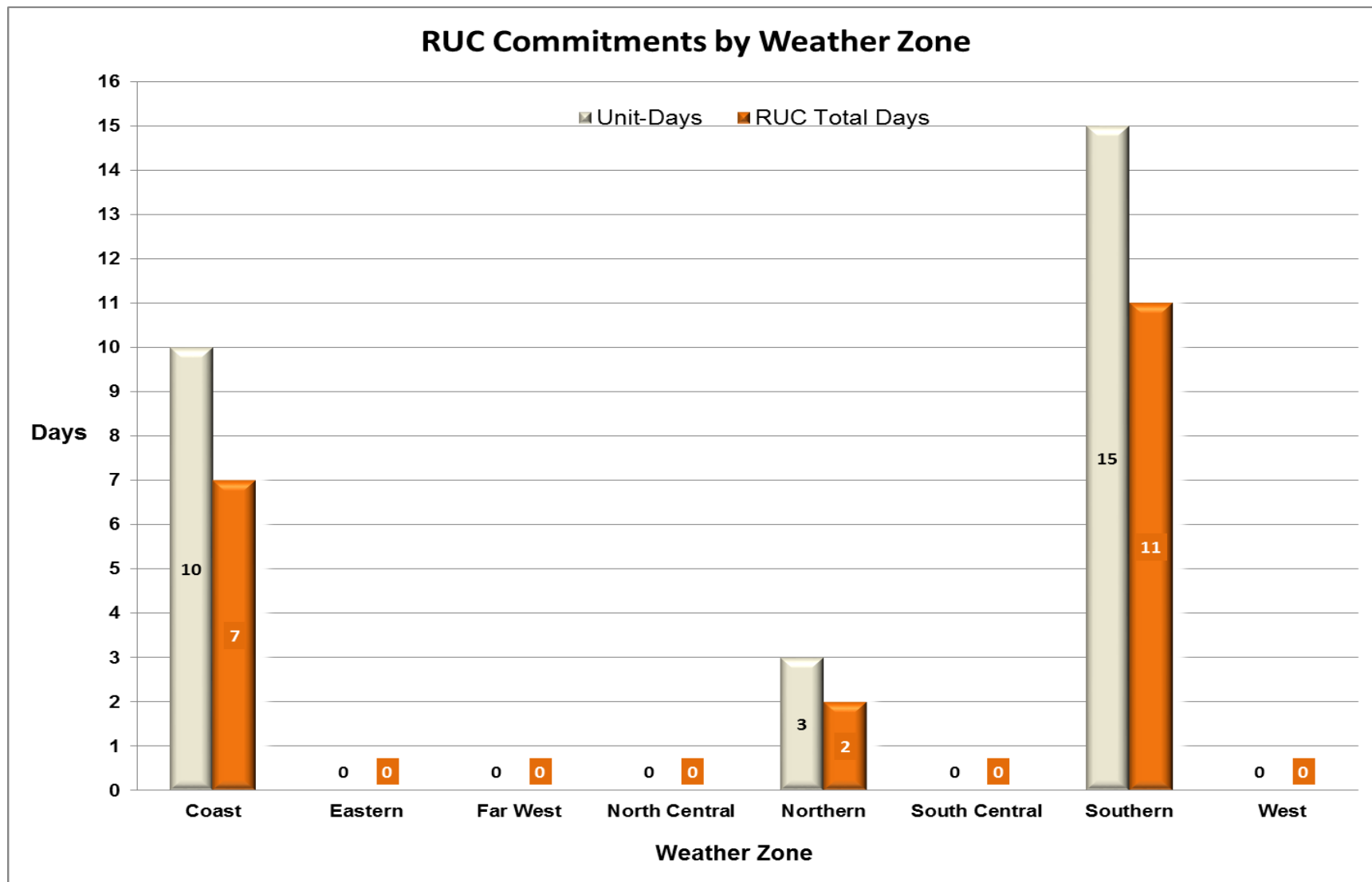


Day-Ahead Load Forecast Performance – May 2016

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

	2013 MAPE	2014 MAPE	2015 MAPE	2016 MAPE	May 2016 MAPE	
Average Annual MAPE	2.86	2.83	2.86	2.90	3.86	
Lowest Monthly MAPE	2.07	2.15	1.89	2.39	Lowest Daily MAPE	1.60 May 21
Highest Monthly MAPE	3.50	3.70	3.81	3.86	Highest Daily MAPE	10.46 May 2

Reliability Unit Commitment (RUC) Capacity by Weather Zone May 2016



Generic Transmission Constraints (GTCs) – May 2016

GTCs	May-15 Days GTCs	Mar-16 Days GTCs	Apr-16 Days GTCs	May-16 Days GTCs	Last 12 Months Total Days (Jun 15 – May 16)
North – Houston	2	2	0	0	3
Valley Import	0	1	0	3	7
Zorillo - Ajo	15	6	13	12	97
Panhandle	-	5	9	20	48
Laredo	-	0	0	1	5
Liston	-	26	25	24	123
Molina	-	0	0	0	20

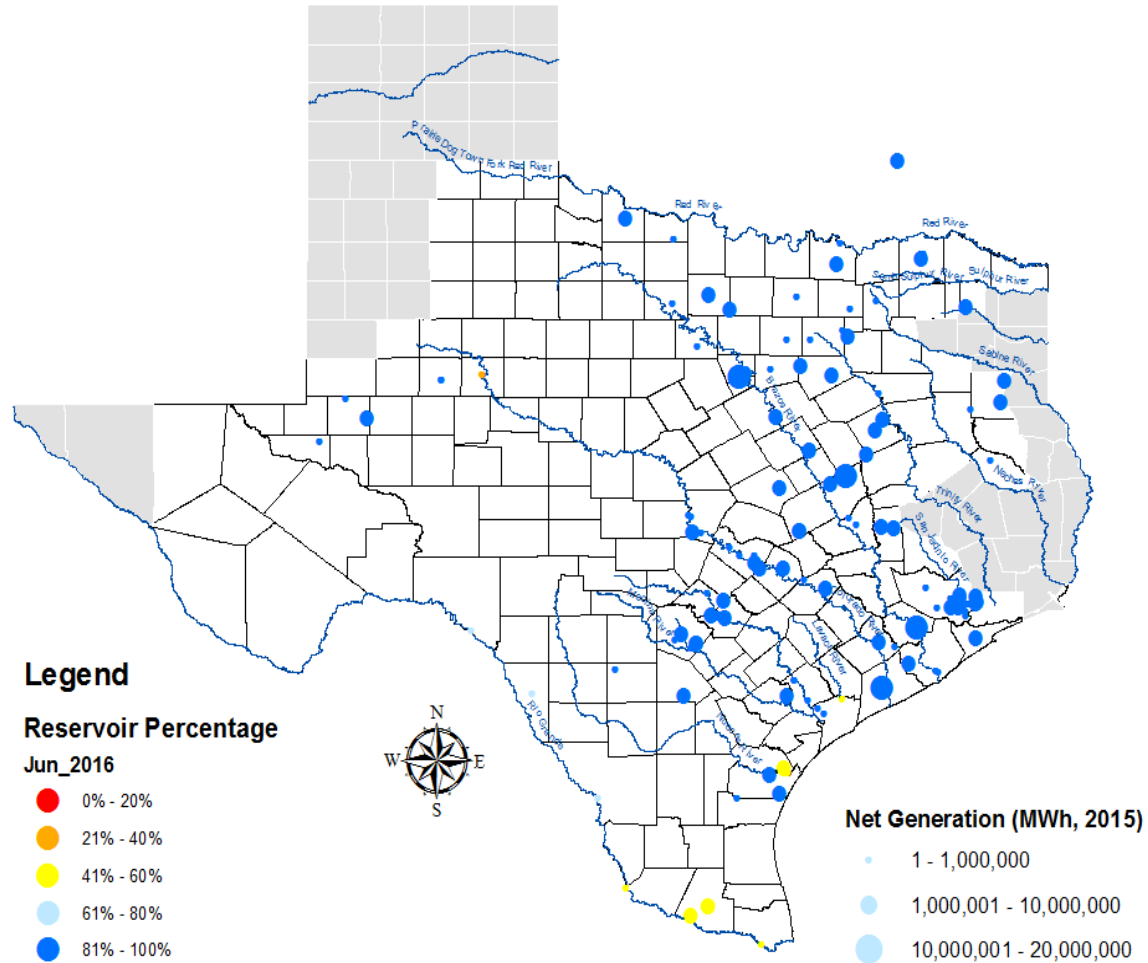
GTC: A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security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

- Two advisories issued due to a GMD alert of K7.
 - Issued on 5/8
- Two advisories issued due to ERCOT's Voltage Security Assessment Tool being unavailable.
 - Issued on 5/12, 5/20
- One Transmission Emergency Notice issued for the Rio Grande Valley due to the Valley Import.
 - Issued on 5/27

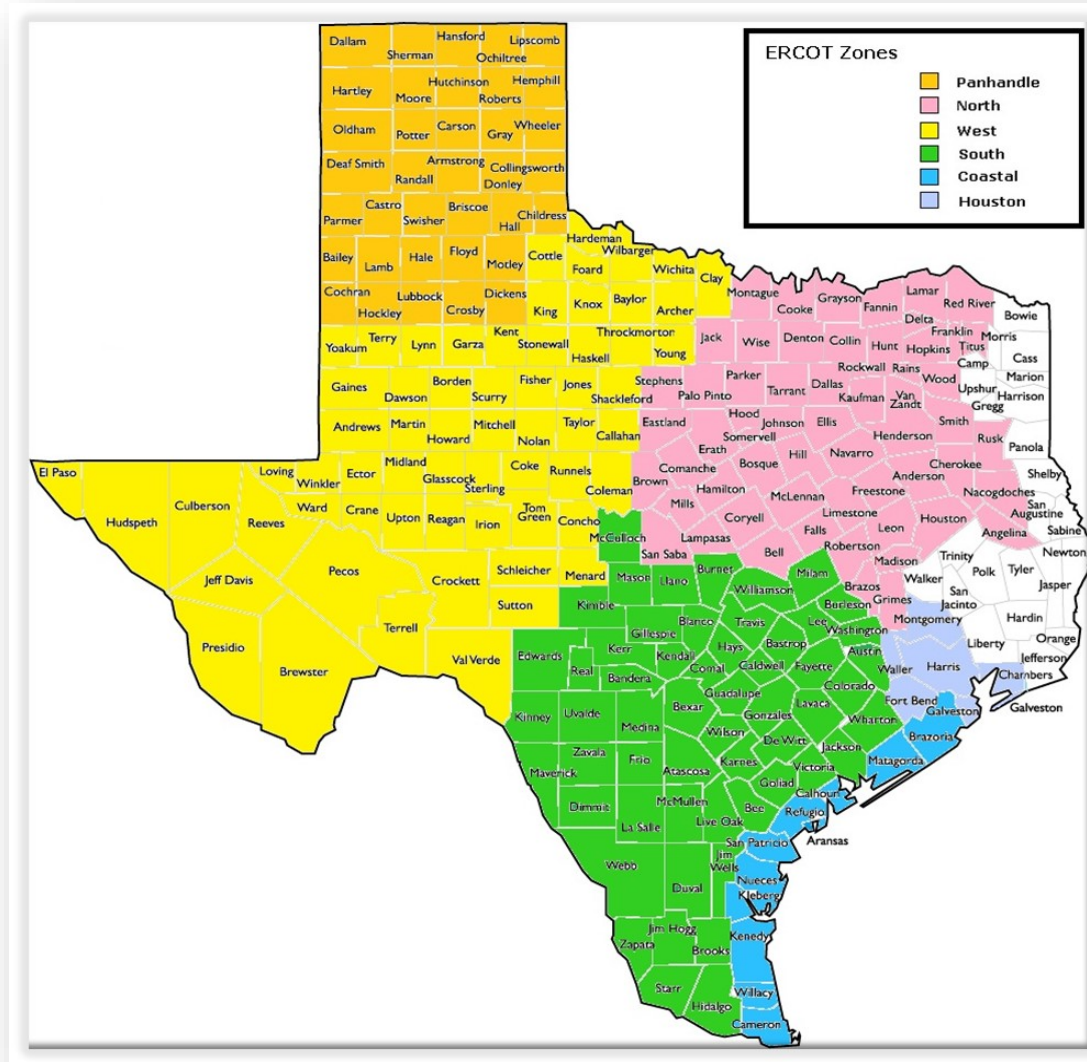
Lake Levels Update – June 1, 2016



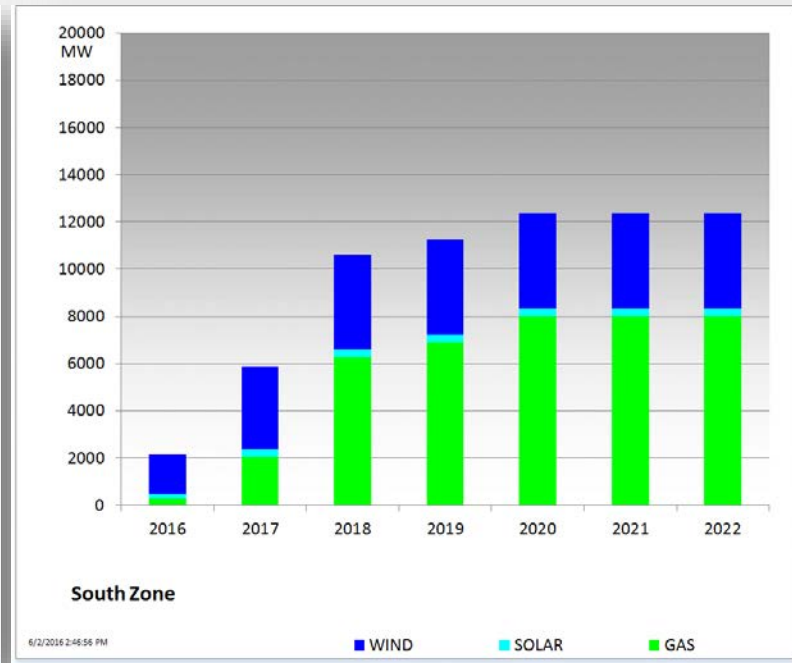
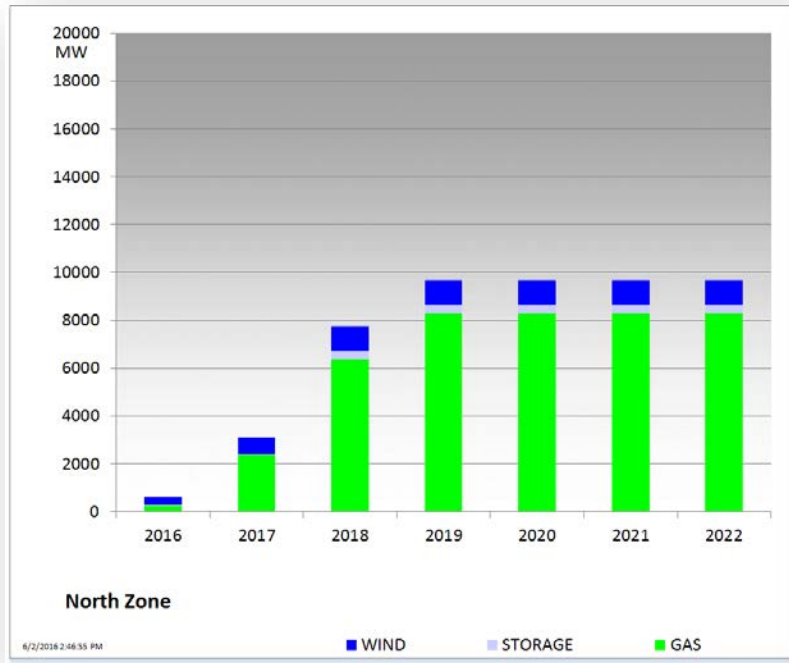
Planning Summary – May 2016

- ERCOT is currently tracking 236 active generation interconnection requests totaling 56,751 MW. This includes 25,304 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of more than \$1.5 Billion.
- Transmission Projects endorsed in 2016 total \$58.5 Million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$6.81 Billion.
- Transmission Projects energized in 2016 total about \$149 Million.

Mapping of Counties to ERCOT Zones – May 2016

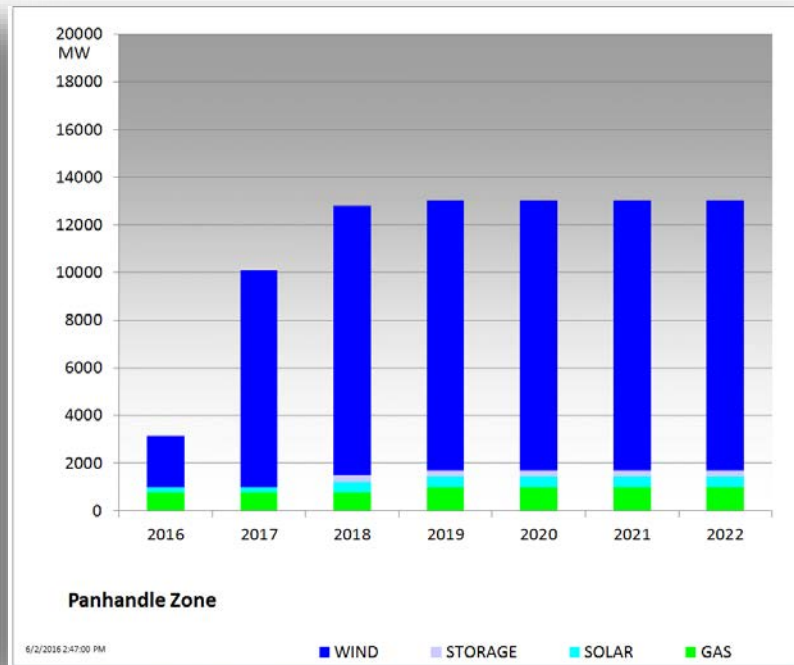
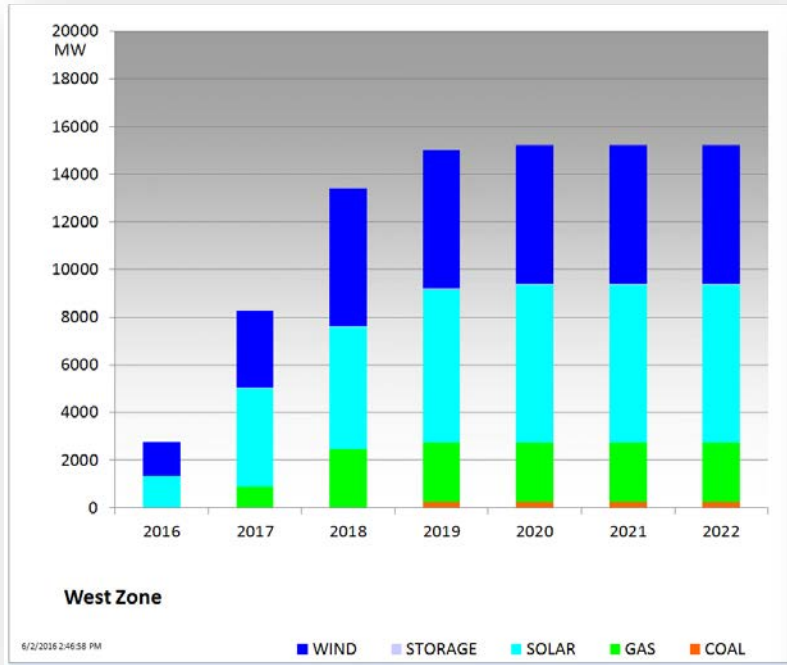


Cumulative MW Capacity of Interconnection Requests by Zone May 2016



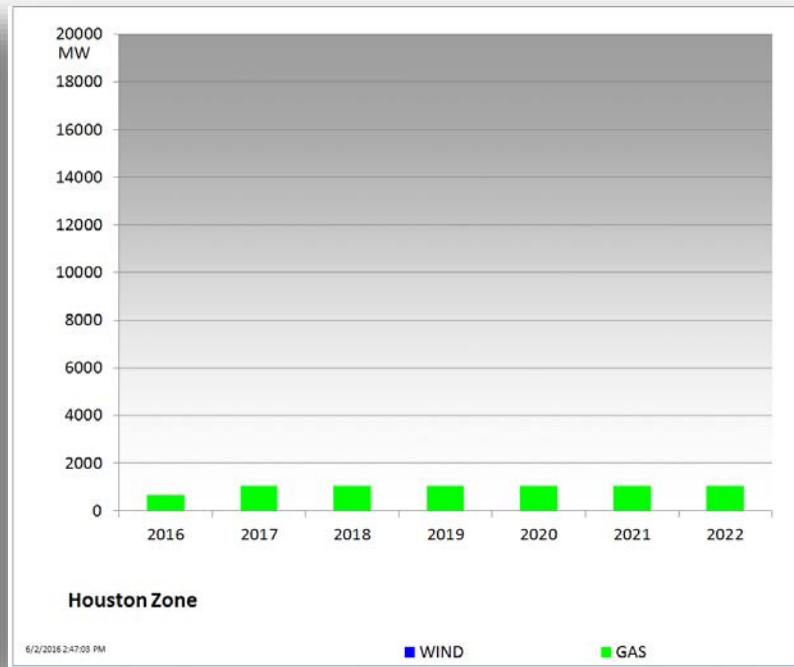
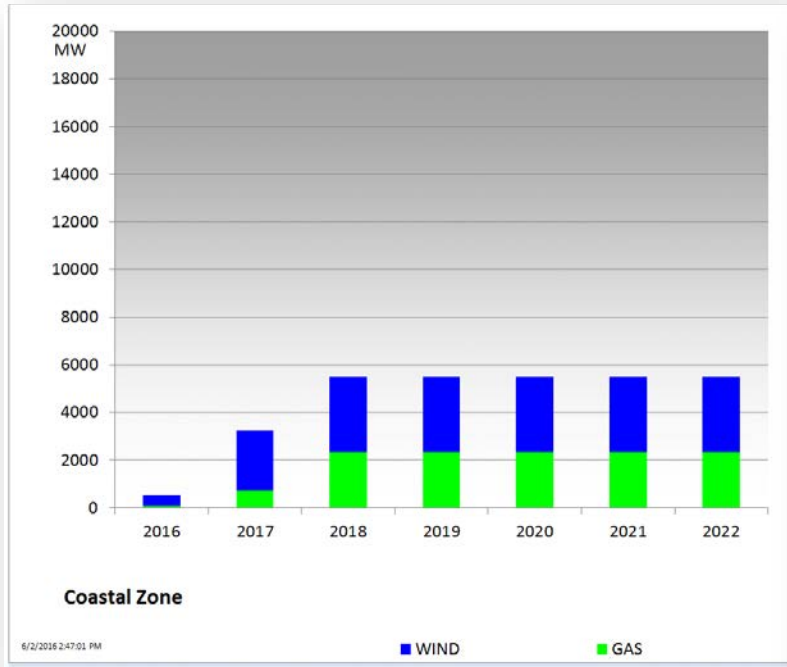
Cumulative MW Capacity of Interconnection Requests by Zone

May 2016

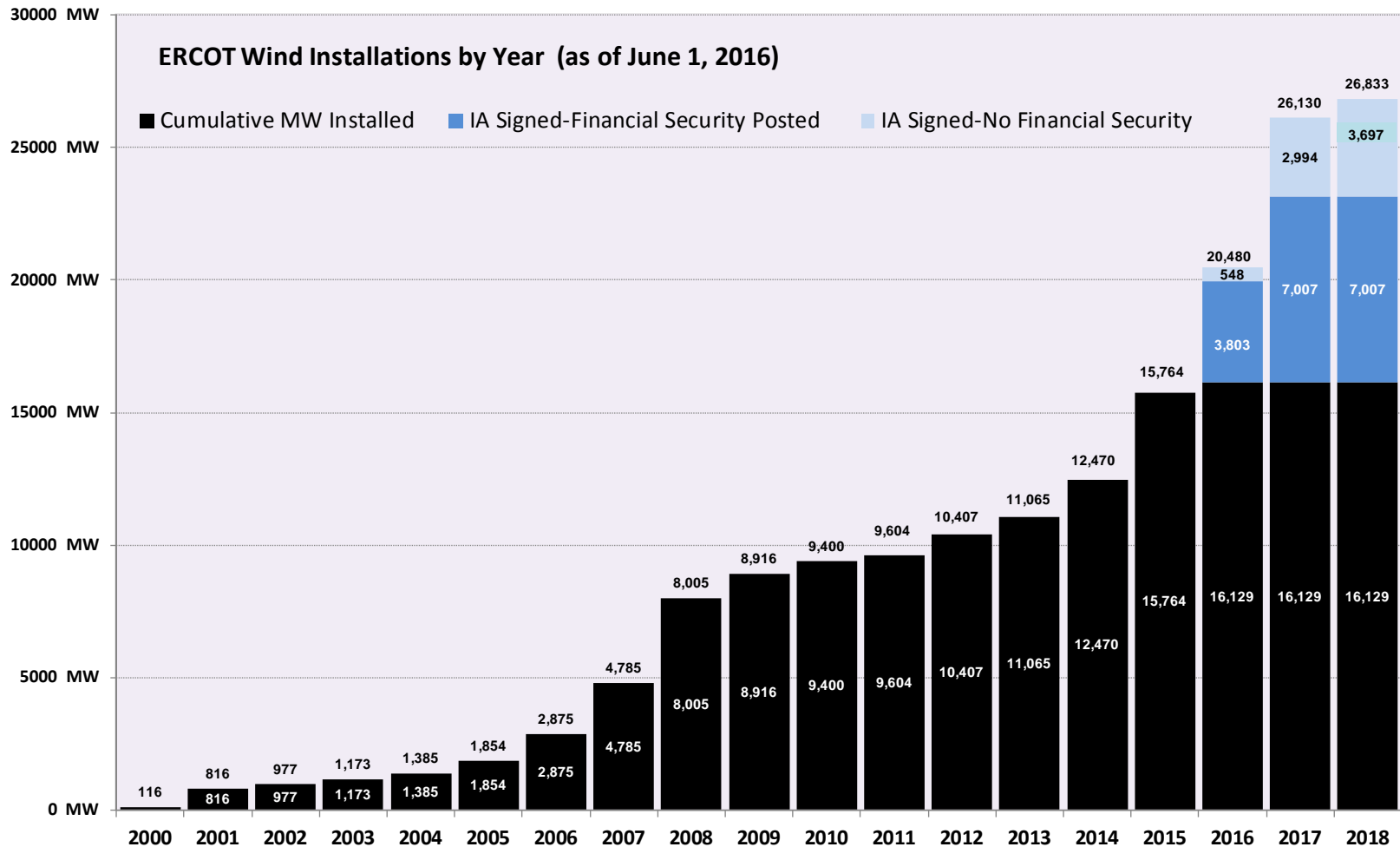


Cumulative MW Capacity of Interconnection Requests by Zone

May 2016



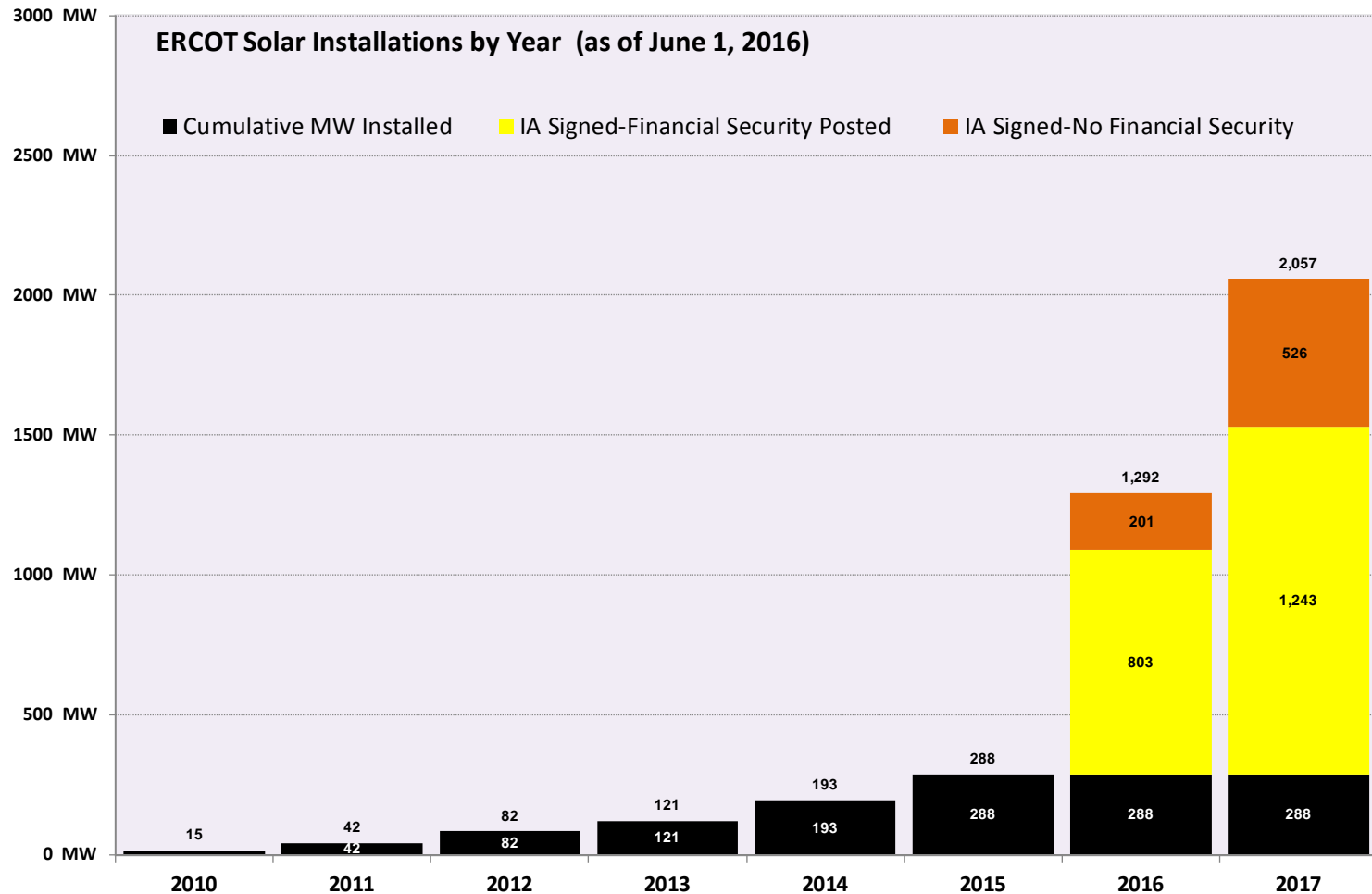
Wind Generation – May 2016



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.

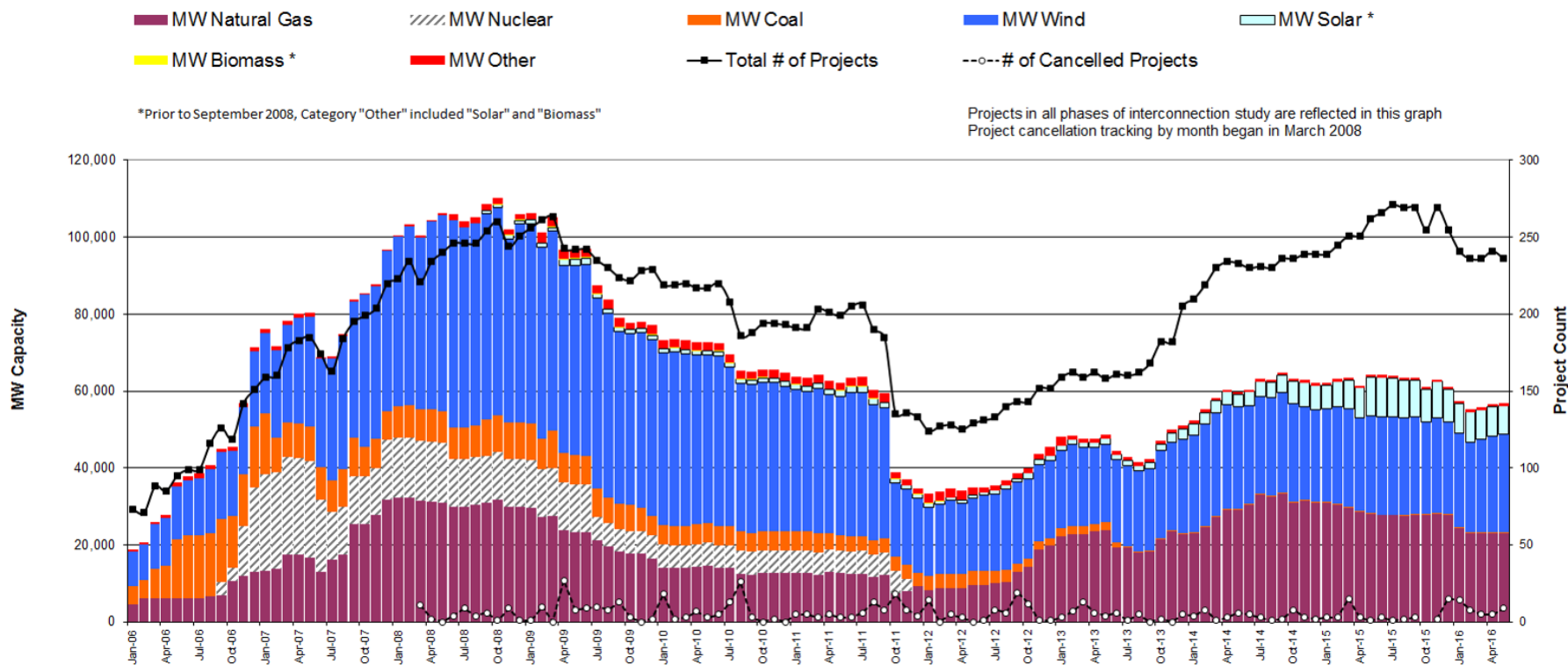
Financial security posted for funding interconnection facilities does not include CREZ security deposits, which are refunded to the Interconnecting Entity when an IA is signed.

Solar Generation – May 2016

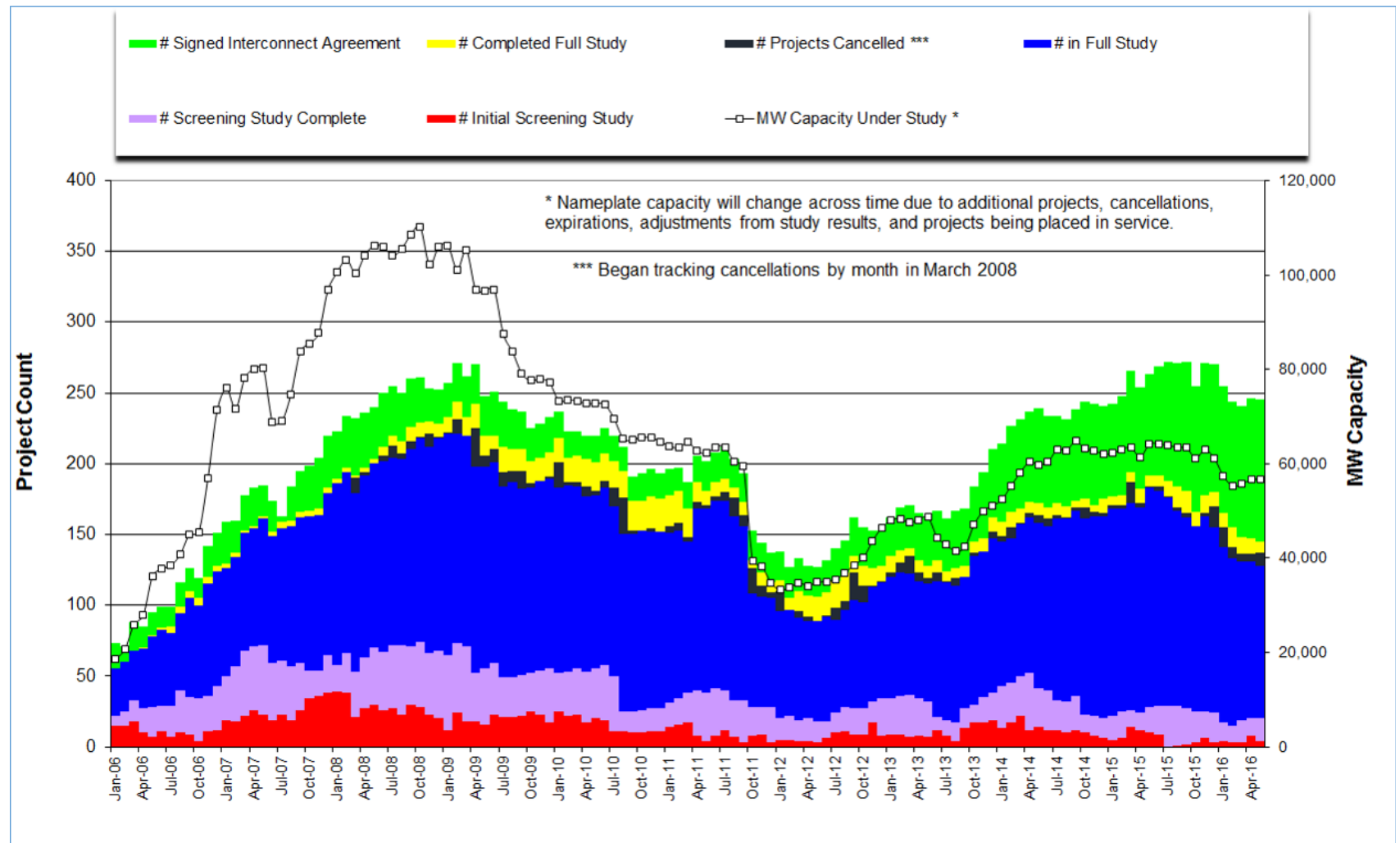


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Generation Interconnection Activity by Fuel – May 2016

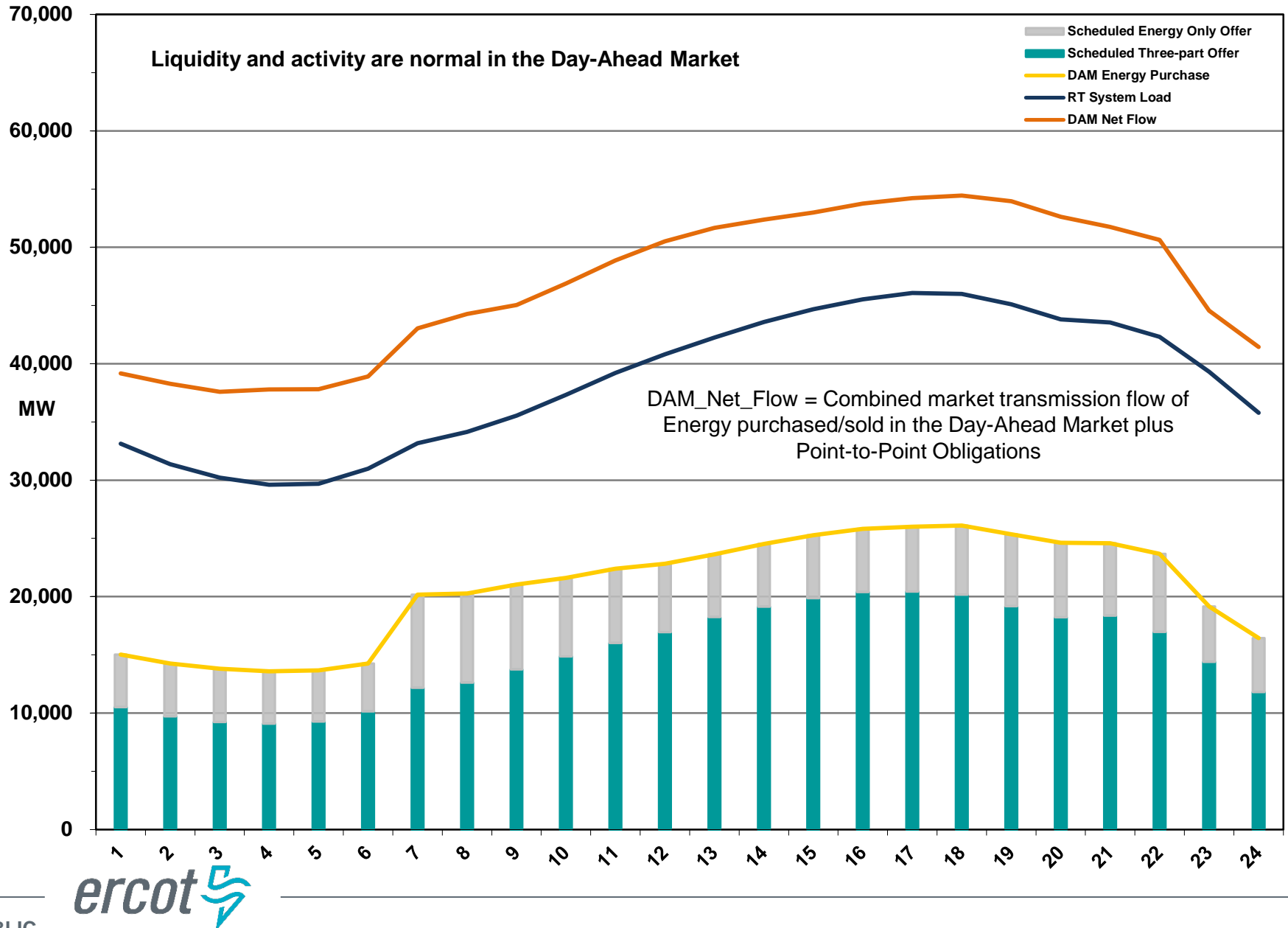


Generation Interconnection Activity by Project Phase – May 2016

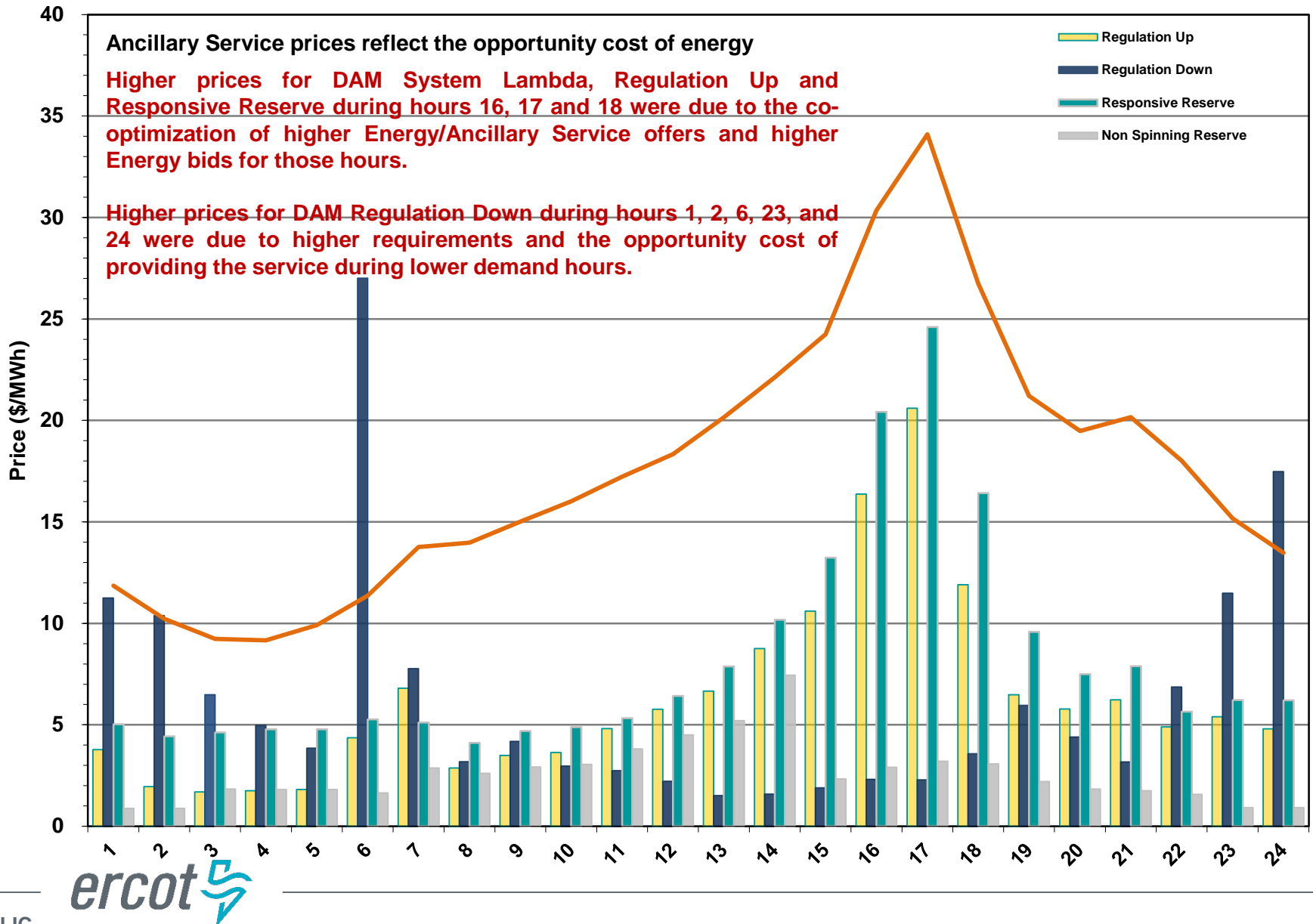


Market Operations

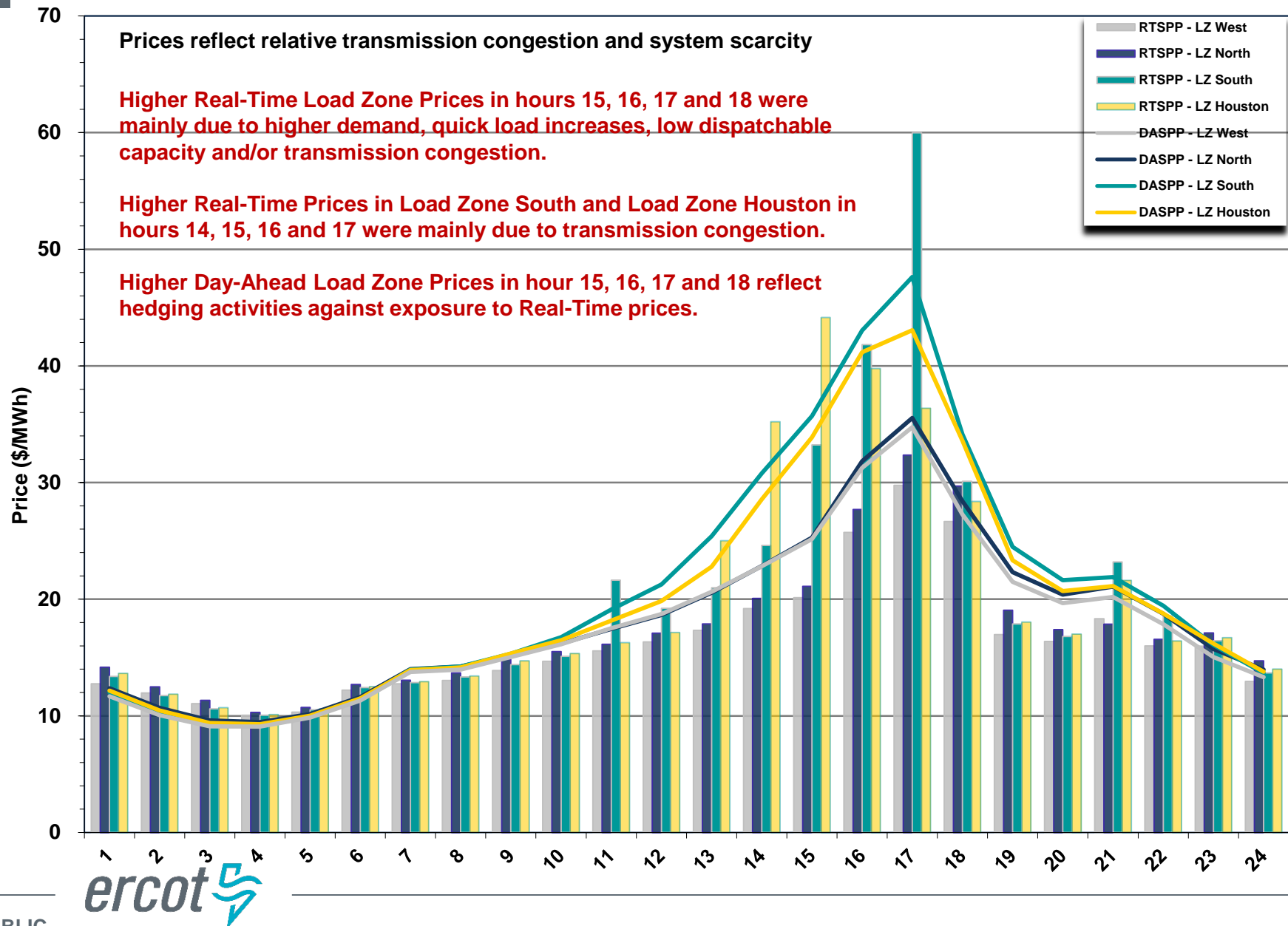
Day-Ahead Schedule (Hourly Average) – May 2016



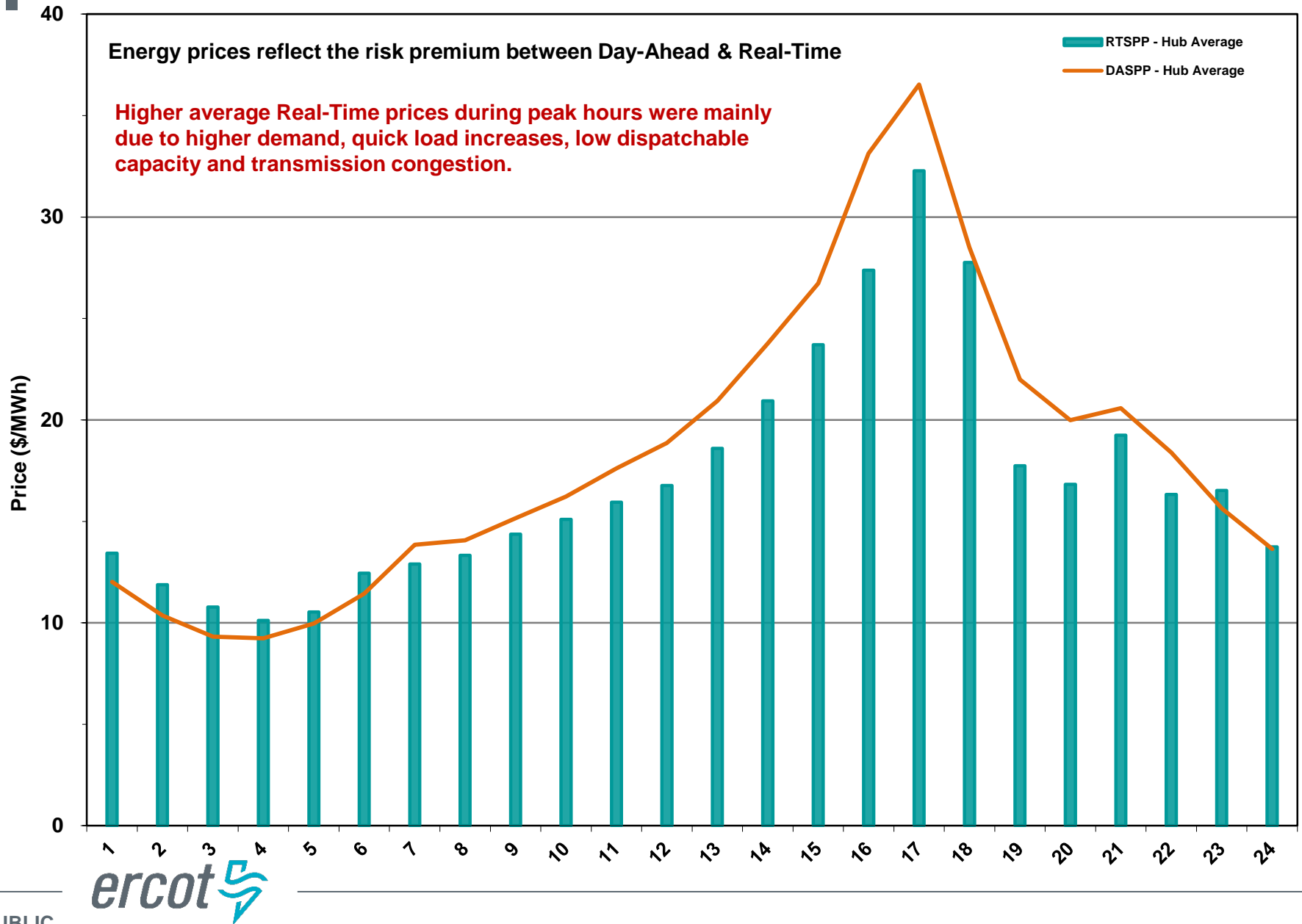
Day-Ahead Electricity And Ancillary Service Hourly Average Prices – May 2016



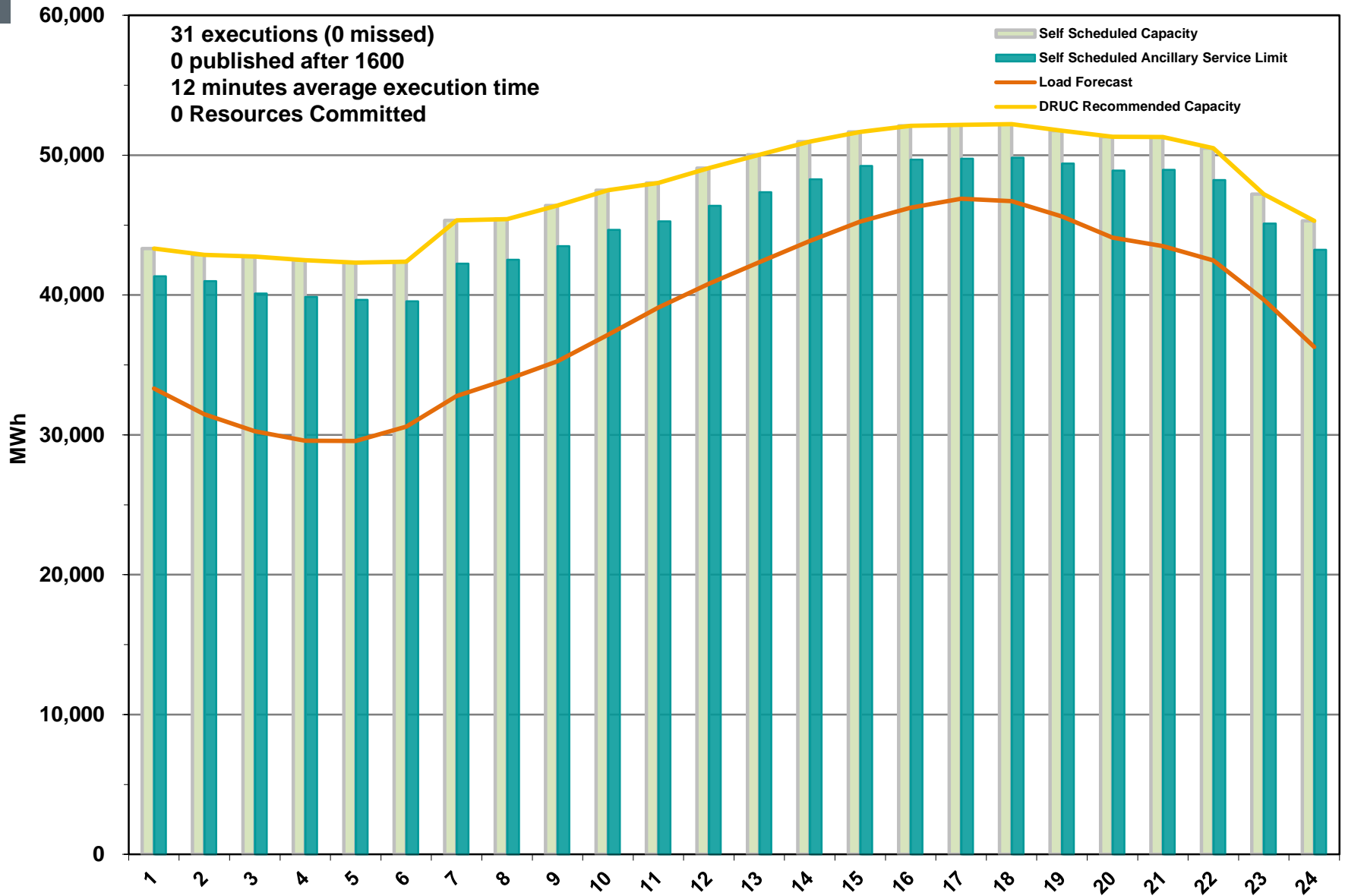
Day-Ahead Vs Real-Time Load Zone SPP (Hourly Average) – May 2016



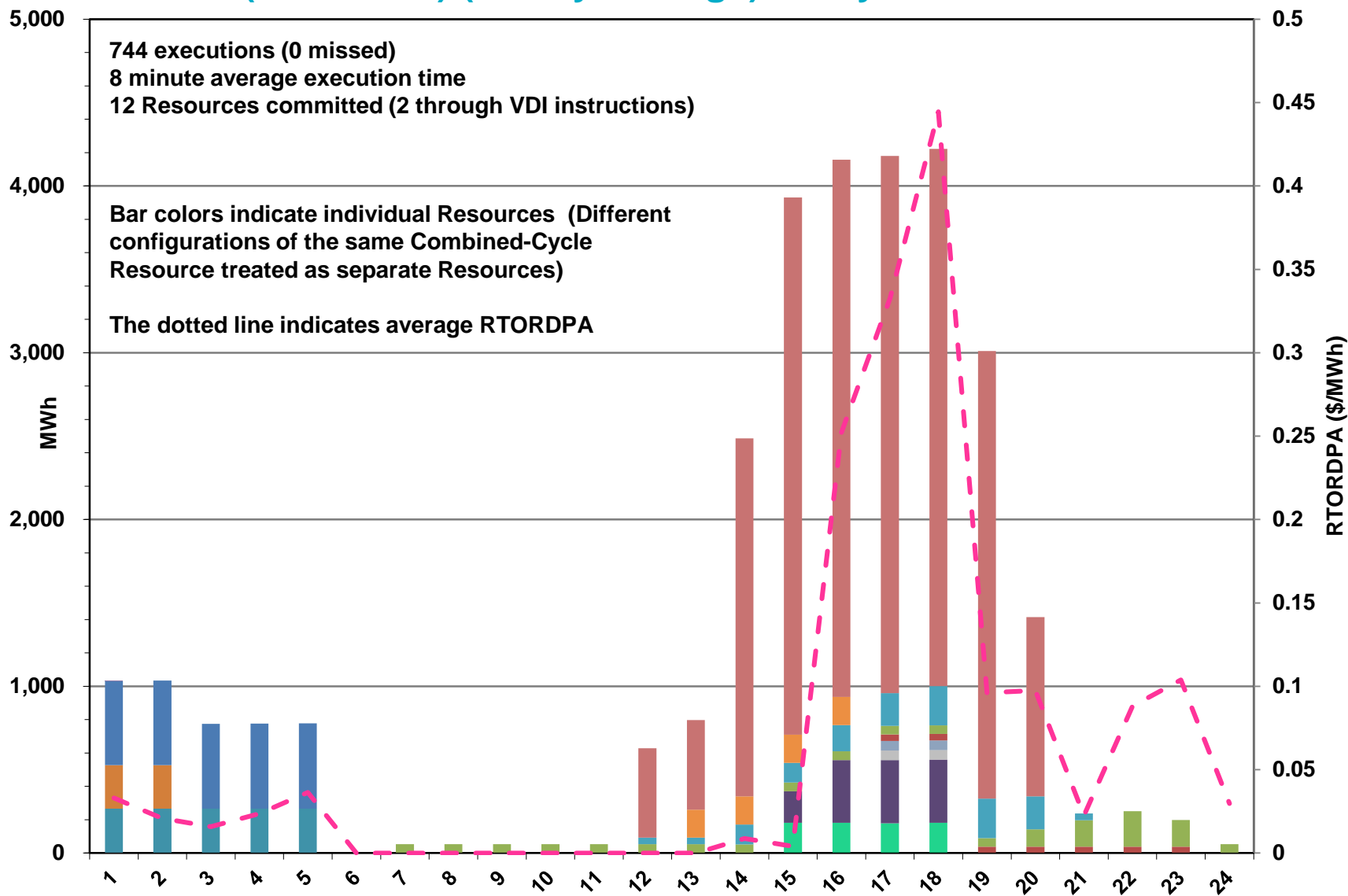
Day-Ahead Vs Real-Time Hub Average SPP (Hourly Average) – May 2016



DRUC Monthly Summary (Hourly Average) – May 2016



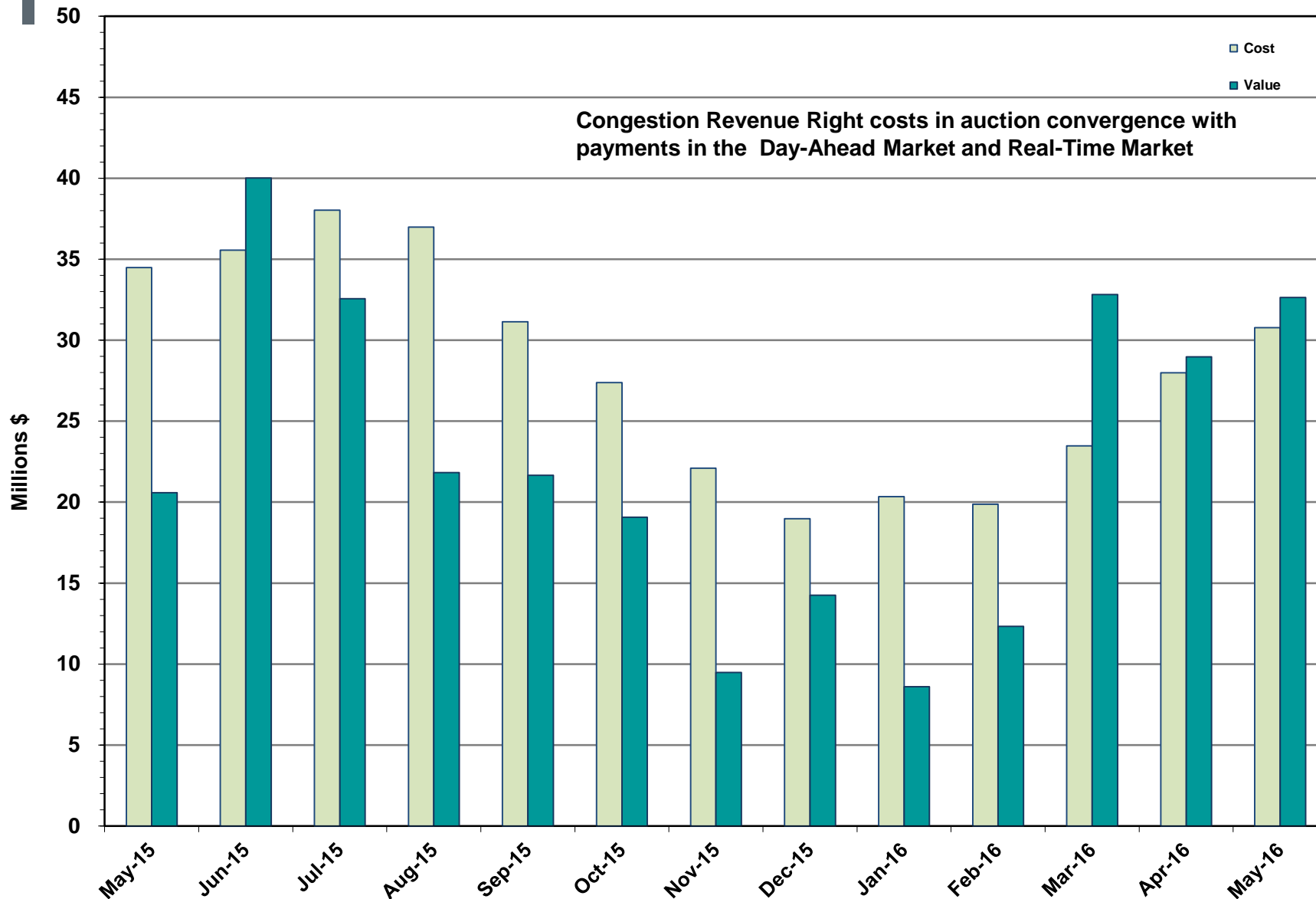
HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) (Hourly Average) – May 2016



Non-Spinning Reserve Service Deployment – May 2016

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

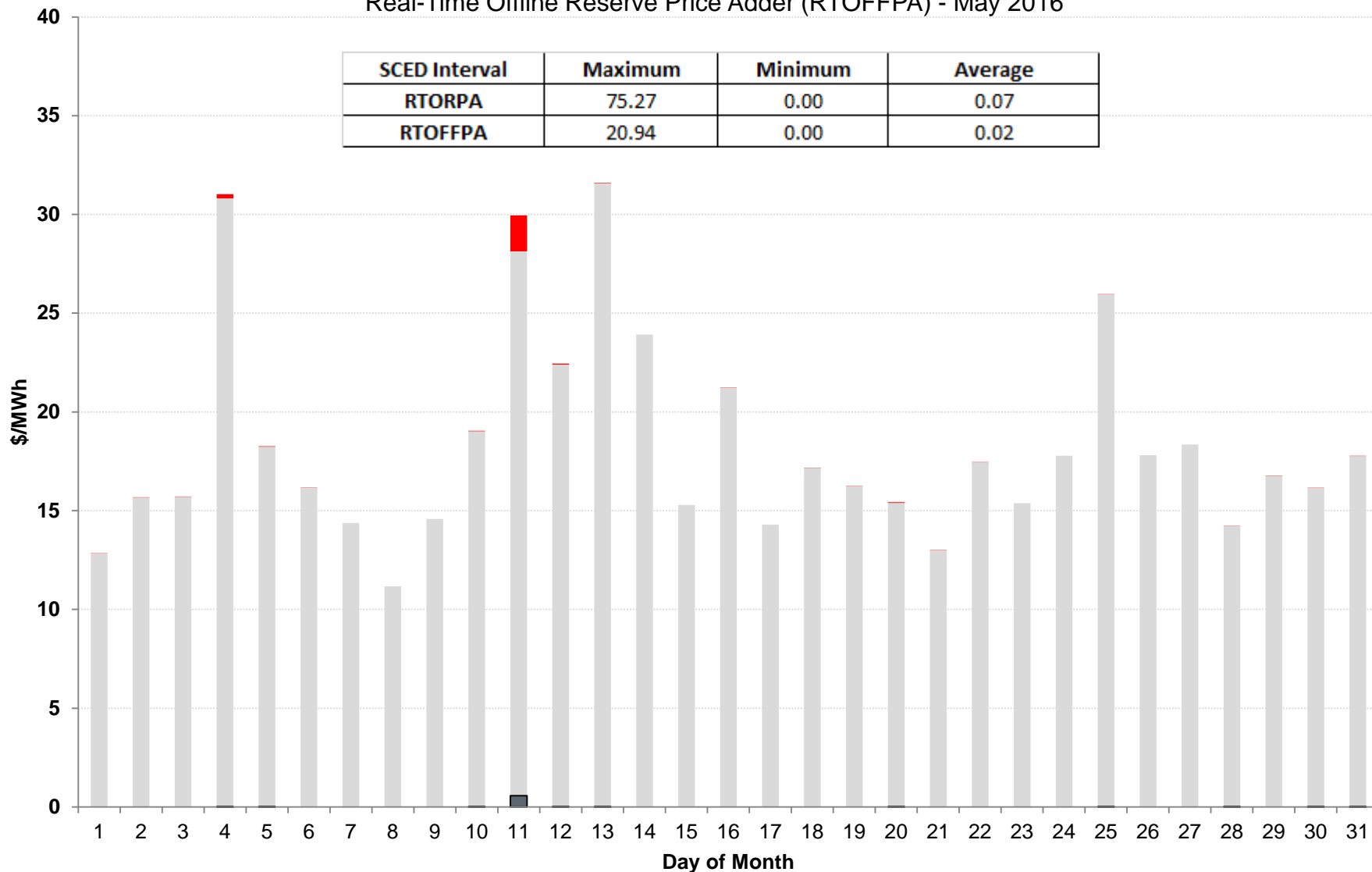
CRR Price Convergence – May 2016



ORDC Price Adder (Daily Average) – May 2016

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

SCED Interval	Maximum	Minimum	Average
RTORPA	75.27	0.00	0.07
RTOFFPA	20.94	0.00	0.02



ERS Procurement for – February 2016 – May 2016

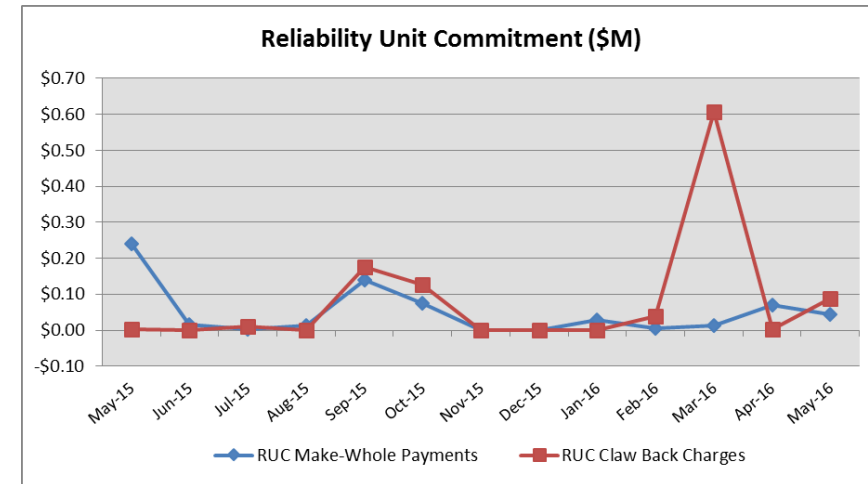
	TP1	TP2	TP3	TP4	TP5	TP6
Non Weather-Sensitive ERS-10 MW	366.951	399.284	401.933	392.785	376.621	344.994
Non Weather-Sensitive ERS-30 MW	507.802	587.778	571.071	556.473	512.965	443.774
Weather-Sensitive ERS-10 MW	0	0	0	0	0	0
Weather-Sensitive ERS-30 MW	0	0	0	0	0	0
Total MW Procured	874.753	987.062	973.004	949.258	889.586	788.768
Clearing Price	\$19.87	\$10.75	\$1.86	\$18.84	\$11.67	\$2.25

Time Period Time Period Hours

Time Period 1	Hours Ending 0600 - 0800 (5:00:00 a.m. to 8:00:00 a.m.) Monday through Friday except ERCOT Holidays.
Time Period 2	Hours Ending 0900 - 1300 (8:00:00 a.m. to 1:00:00 p.m.) Monday through Friday except ERCOT Holidays.
Time Period 3	Hours Ending 1400 - 1600 (1:00:00 p.m. to 4:00:00 p.m.) Monday through Friday except ERCOT Holidays.
Time Period 4	Hours Ending 1700 - 1900 (4:00:00 p.m. to 7:00:00 p.m.) Monday through Friday except ERCOT Holidays.
Time Period 5	Hours Ending 2000 - 2200 (7:00:00 p.m. to 10:00:00 p.m.) Monday through Friday except ERCOT Holidays.
Time Period 6	All other hours

Reliability Services – May 2016

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.05)
RUC Clawback Charges	\$0.09
RUC Commitment Settlement	\$0.04
RUC Capacity Short Charges	\$0.05
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.05
RUC Decommitment Payments	\$0.00



RUC Make-Whole Payments were \$0.05M in May 2016. RUC Clawback Charges were \$0.09M.

There was \$0.09M allocated directly to load in May 2016, compared to:

- \$0.00M in April 2016
- \$0.00M in May 2015

Capacity Services – May 2016

Capacity Services	\$ in Millions
Regulation Up Service	\$1.53
Regulation Down Service	\$1.78
Responsive Reserve Service	\$15.13
Non-Spinning Reserve Service	\$3.29
Black Start Service	\$0.64
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges	\$22.37

Capacity Services costs decreased from last month and decreased from May 2015.

May 2016 cost was \$22.37M, compared to:

- A charge of \$33.17M in April 2016
- A charge of \$26.73M in May 2015

Energy Settlement – May 2016

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$308.54
Point to Point Obligation Purchases	\$33.52
RMR Day-Ahead Revenue	\$0.00
Energy Sales	(\$305.95)
Day-Ahead Congestion Rent	\$36.11
Day-Ahead Market Make-Whole Payments	(\$0.05)

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$268.93)
Energy Imbalance at a Load Zone	\$461.95
Energy Imbalance at a Hub	(\$146.42)
Real Time Congestion from Self Schedules	(\$0.01)
Block Load Transfers and DC Ties	(\$2.01)
Impact to Revenue Neutrality	\$44.58
Emergency Energy Payments	(\$0.04)
Base Point Deviation Charges	\$0.25
Real-Time Metered Generation (MWh in millions)	28.51

Congestion Revenue Rights (CRR) – May 2016

	\$ in Millions
Annual Auction	(\$25.41)
Monthly Auction	(\$5.37)
Total Auction Revenue	(\$30.78)
Day-Ahead CRR Settlement	(\$32.65)
Day-Ahead CRR Short-Charges	\$1.32
Day-Ahead CRR Short-Charges Refunded	(\$1.32)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
Total CRR Funding	(\$32.65)
Day-Ahead Point to Point Obligations Settlement	\$33.52
Real-Time Point to Point Obligation Settlement	(\$48.22)
Net Point to Point Obligation Settlement	(\$14.70)

Congestion Revenue Rights settlement payments were fully funded and excess funds were allocated to Load.

Point to Point Obligations settled with a net credit of \$14.70M compared to a net credit of \$7.98M last month.

CRR Balancing Account Fund – May 2016

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$4.79
CRR PTP Option Award Charges	\$0.05
Day-Ahead CRR Short-Charges Refunded	(\$1.32)
Load Allocated CRR Amount	(\$3.52)
Total Fund Amount	\$10.00

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

In the month of May 2016, the fund cap remained at \$10M and excess funds of \$3.52M were allocated to Load.

Revenue Neutrality – May 2016

Revenue Neutrality Settlement

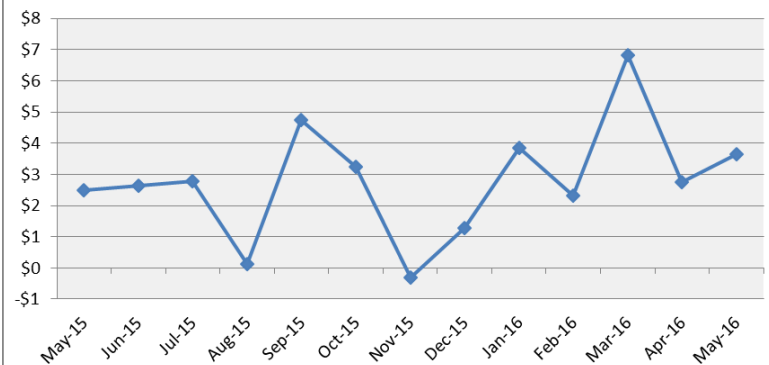
	\$ in Millions
Real-Time Point to Point Obligation Settlement	(\$48.22)
Real-Time Point to Point Options and Options with Refund Settlement	\$0.00
Real-Time Energy Imbalance Settlement	\$46.59
Real-Time Congestion from Self-Schedules Settlement	(\$0.01)
DC Tie & Block Load Transfer Settlement	(\$2.01)
Charge to Load	\$3.65

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

May 2016 was a charge of \$3.65M, compared to:

- \$2.75M charge in April 2016
- \$2.47M charge in May 2015

Revenue Neutrality Uplift (\$M)



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

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance Payment Amount	(\$44.63)
Load Allocated AS Imbalance Revenue Neutrality Amount	\$44.62
Total Charges	\$44.62

In May 2016, total credits to QSEs w/an Ancillary Service Imbalance were \$44,627, while total charges in April 2016 were \$1,013.

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

All days in May with settlement greater than \$0 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 May 11th in the amount of \$31,190.

Net Allocation to Load – May 2016

Market-Based Allocation

\$ in Millions

CRR Auction Revenue Disbursement Settlement	(\$30.78)
Balancing Account Proceeds Settlement	(\$3.52)
Net Reliability Unit Commitment Settlement	(\$0.09)
Ancillary Services Settlement	\$22.37
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$3.65
Emergency Energy Settlement	\$0.04
Base Point Deviation Settlement	(\$0.25)
ORDC Settlement	\$0.04
Total	(\$8.54)

Fee Allocation

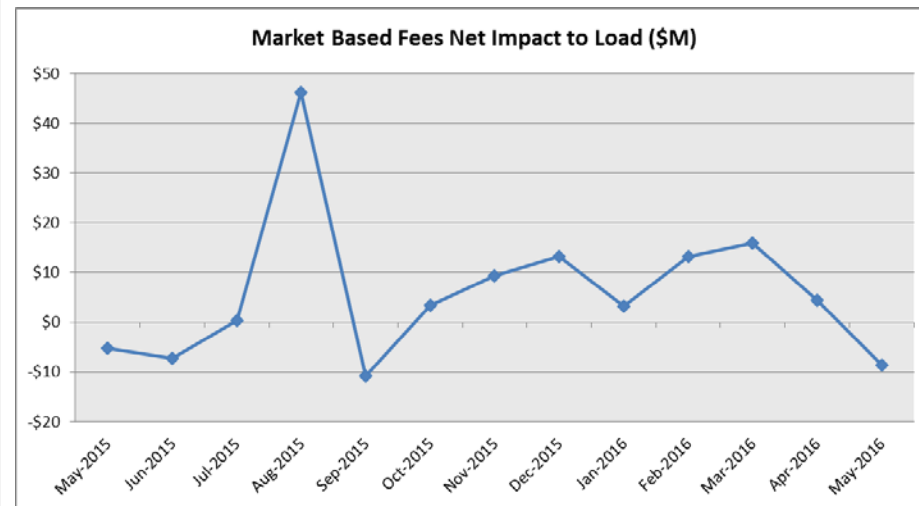
ERCOT Administrative Fee Settlement	\$15.91
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Net Allocated to Load \$7.37

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

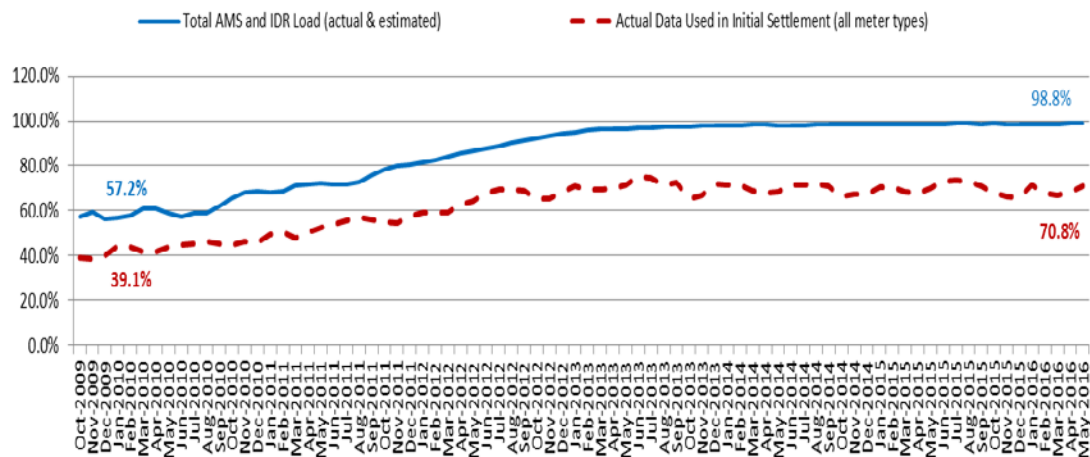
May 2016 was a charge of \$7.37M, compared to:

- A charge of \$18.28M in April 2016
- A charge of \$7.75M in May 2015



Advanced Meter Settlement Impacts – May 2016

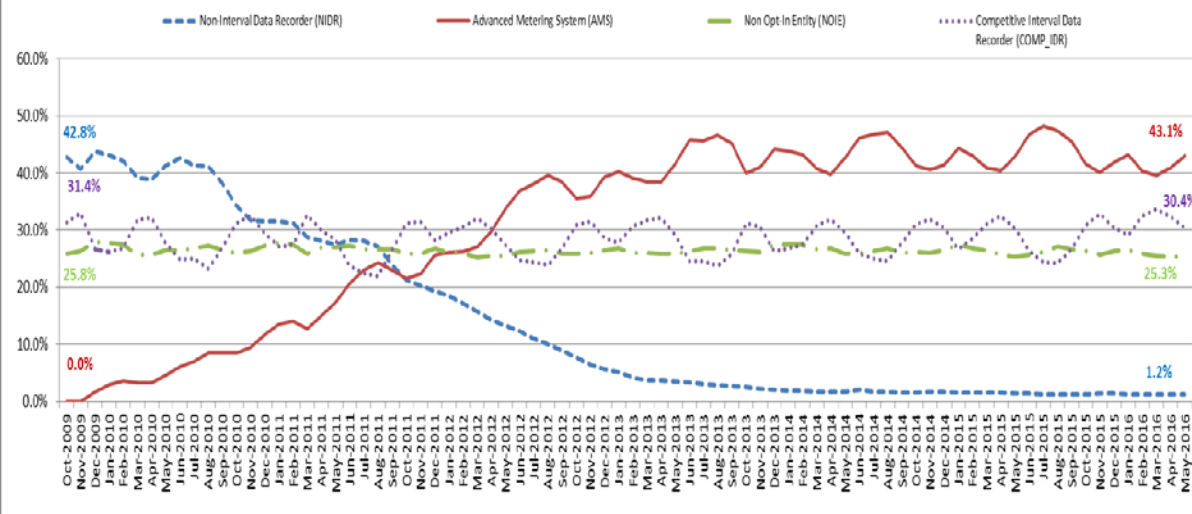
Percent Actual/Percent Interval Data Recorder (IDR)



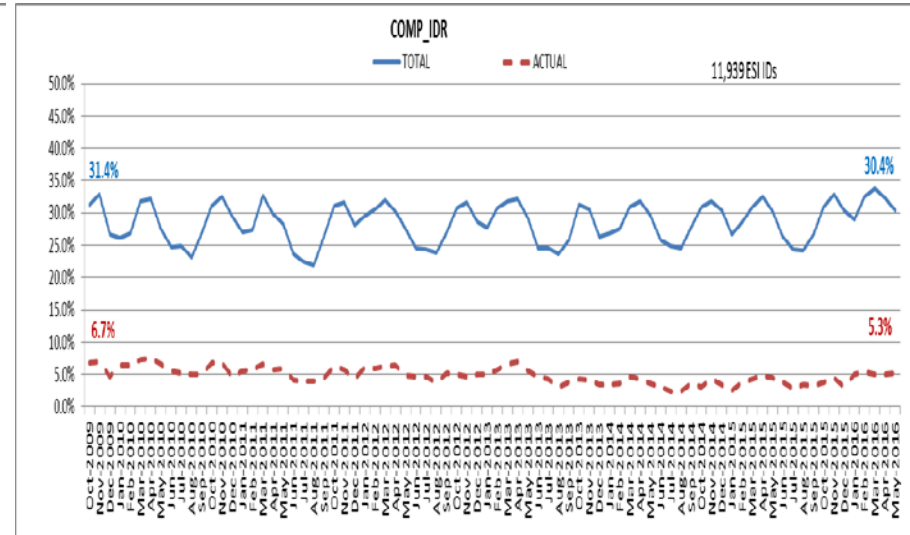
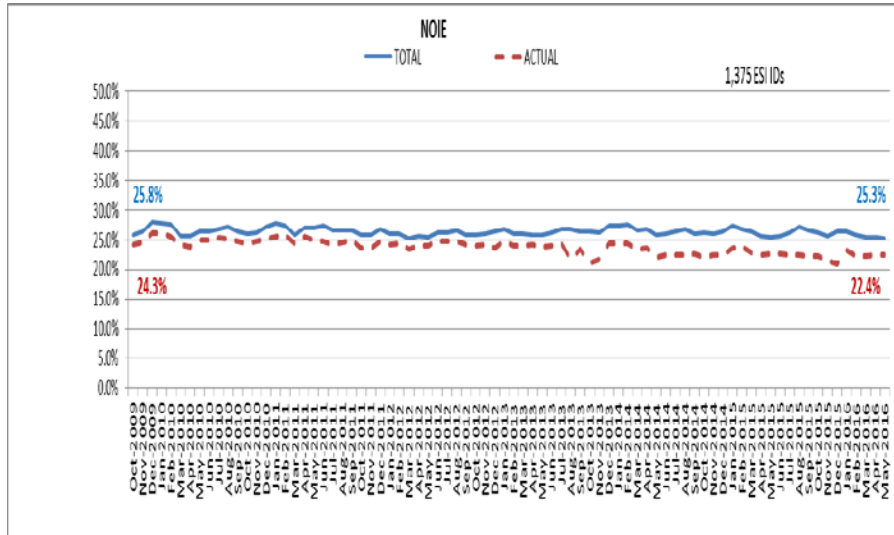
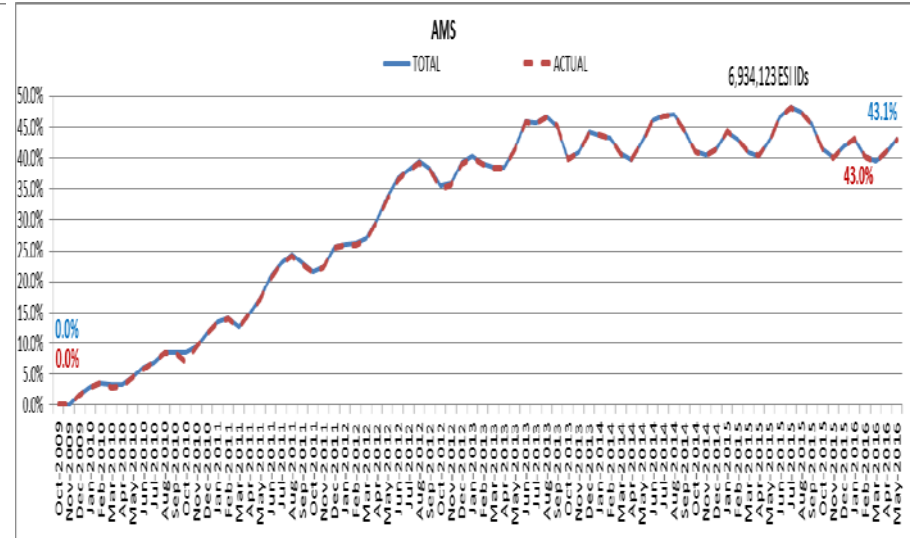
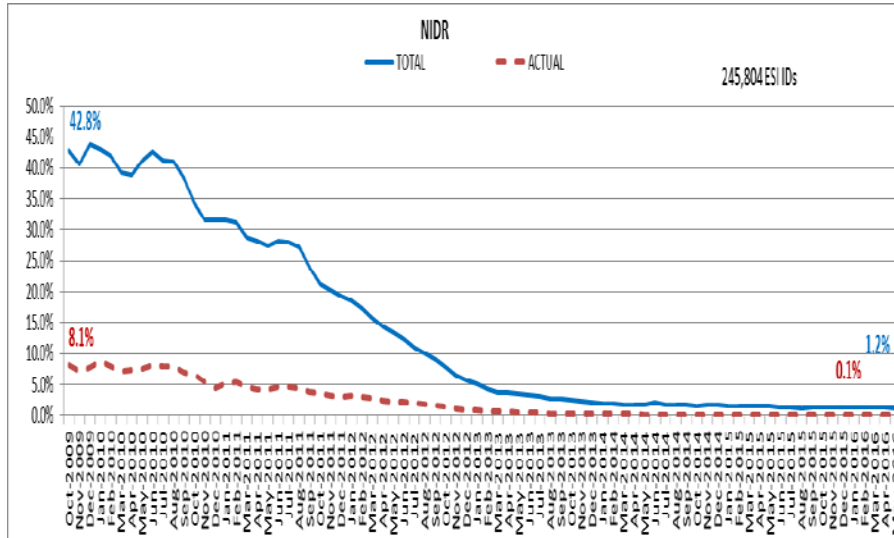
May 2016: At month end, settling 6.9M ESIIDs using Advanced Meter data.

May 2016: 98.8% 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 – May 2016

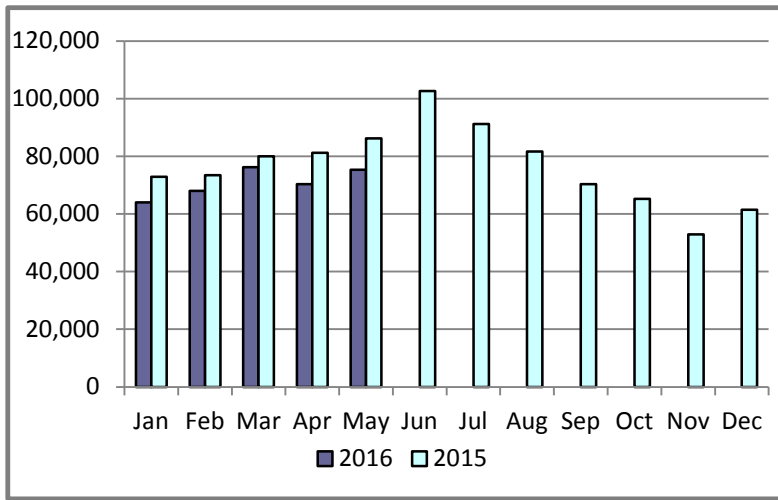


Retail Transaction Volumes – Summary – May 2016

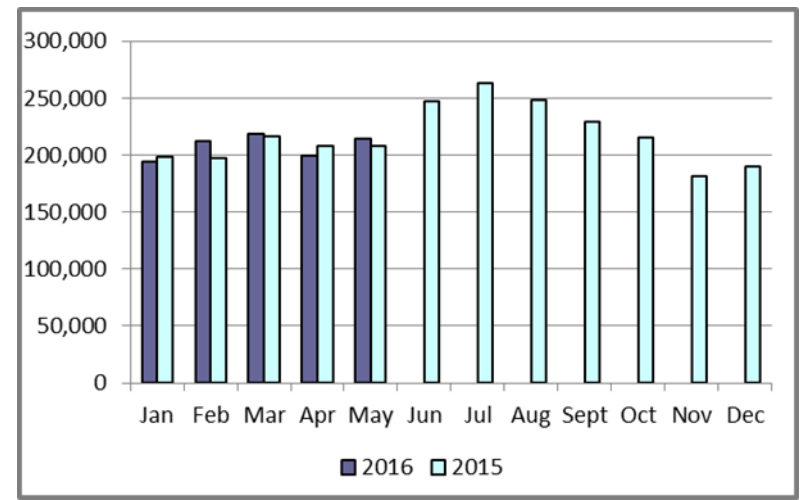
	Year-To-Date		Transactions Received	
Transaction Type	May 2016	May 2015	May 2016	May 2015
Switches	353,869	393,760	75,323	86,229
Acquisition	0	0	0	0
Move - Ins	1,038,622	1,027,838	214,383	208,166
Move - Outs	531,464	524,906	118,022	114,675
Continuous Service Agreements (CSA)	260,089	204,014	50,499	39,384
Mass Transitions	0	0	0	0
Total	2,184,044	2,150,518	458,227	448,454

Retail Transaction Volumes – Summary – May 2016

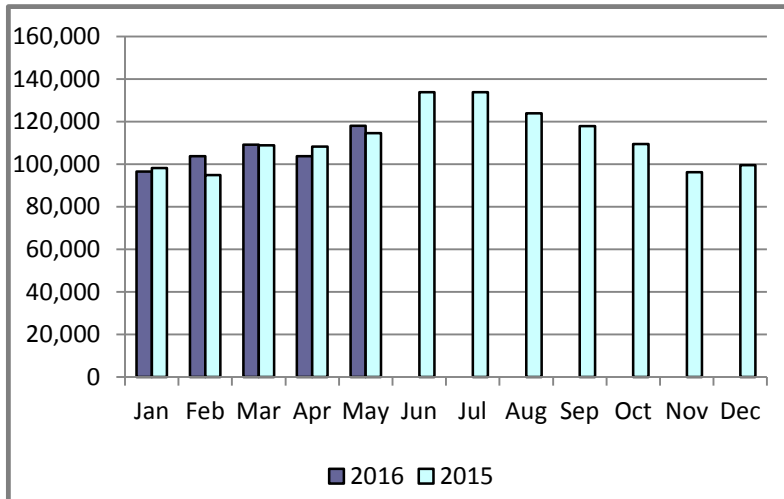
Switches/Acquisitions



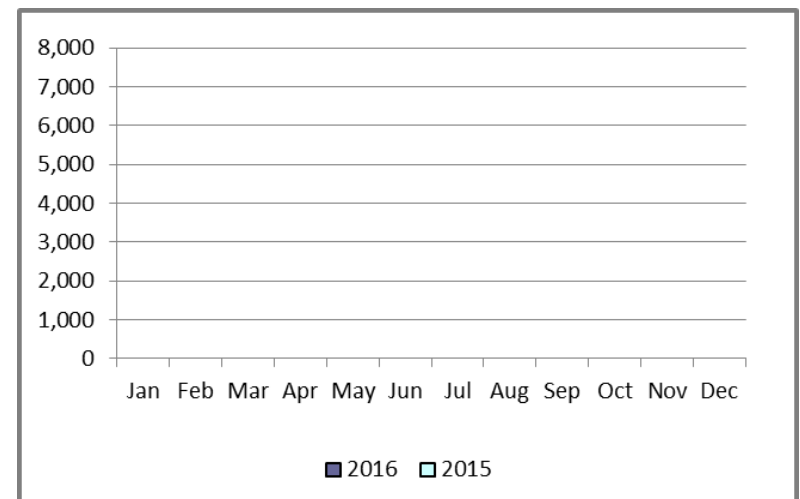
Move-Ins



Move-Outs

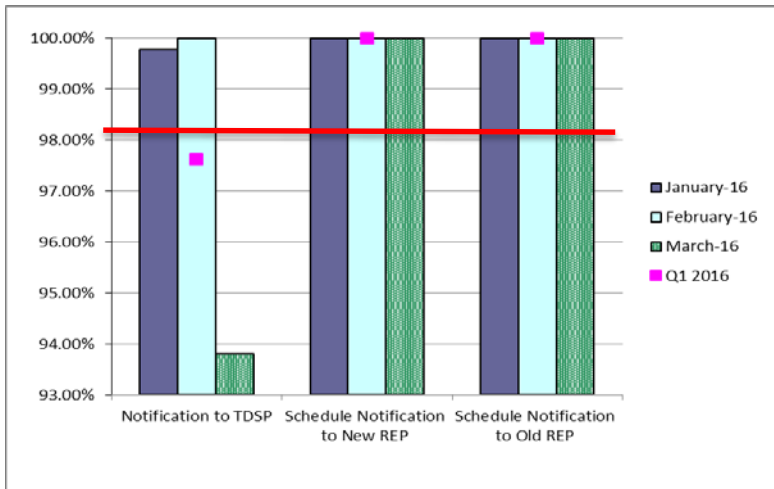


Mass Transition

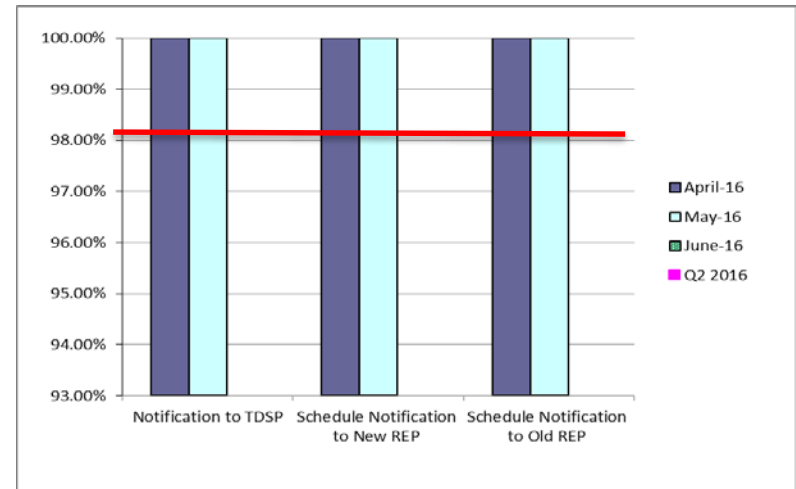


Retail Performance Measures – Switch – May 2016

1st Quarter



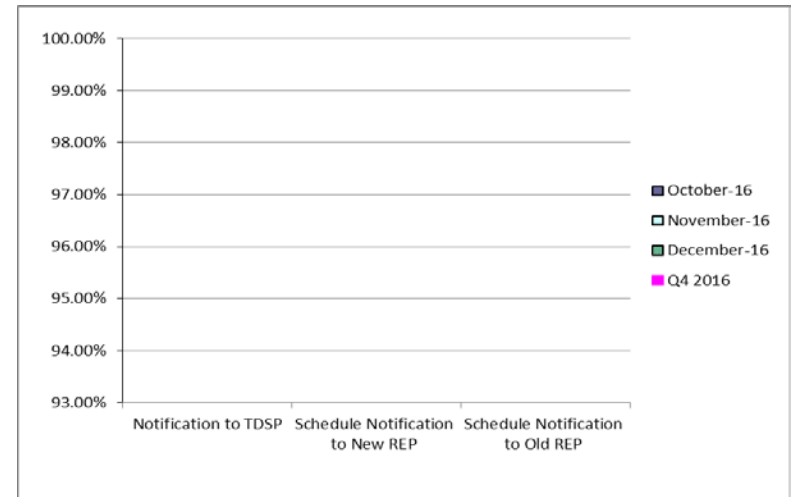
2nd Quarter



3rd Quarter

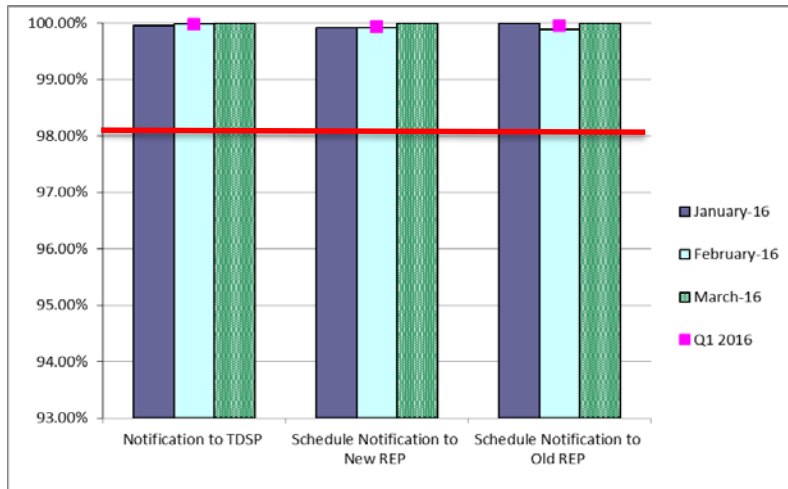


4th Quarter

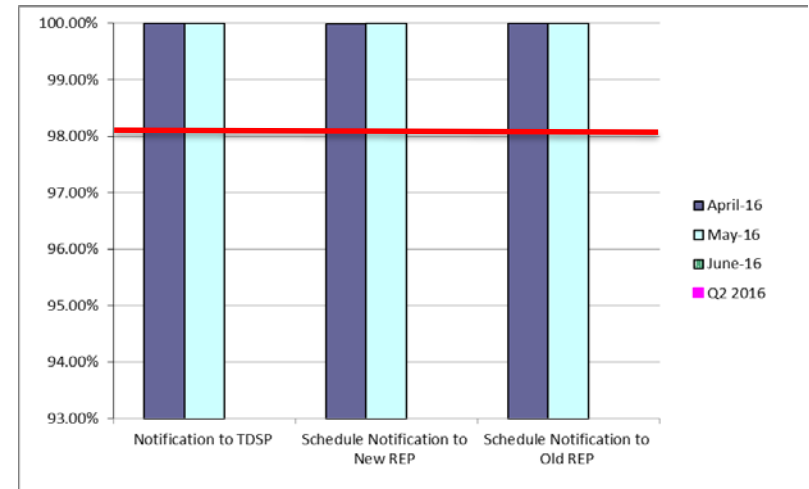


Retail Performance Measures – Same Day Move-In – May 2016

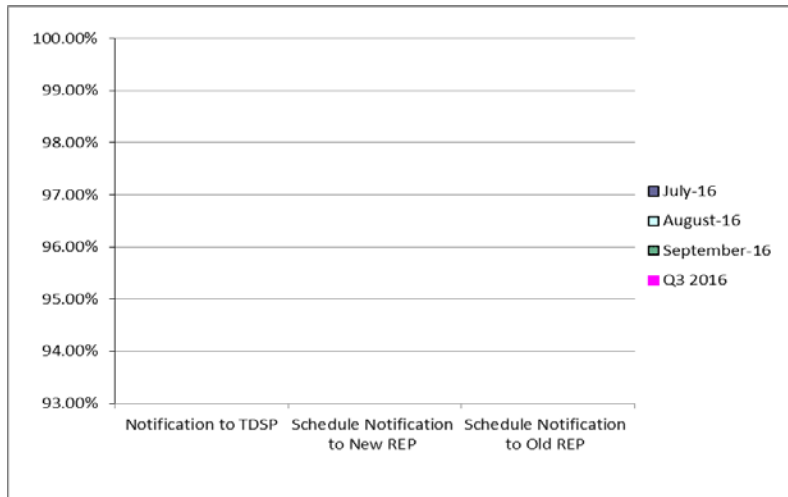
1st Quarter



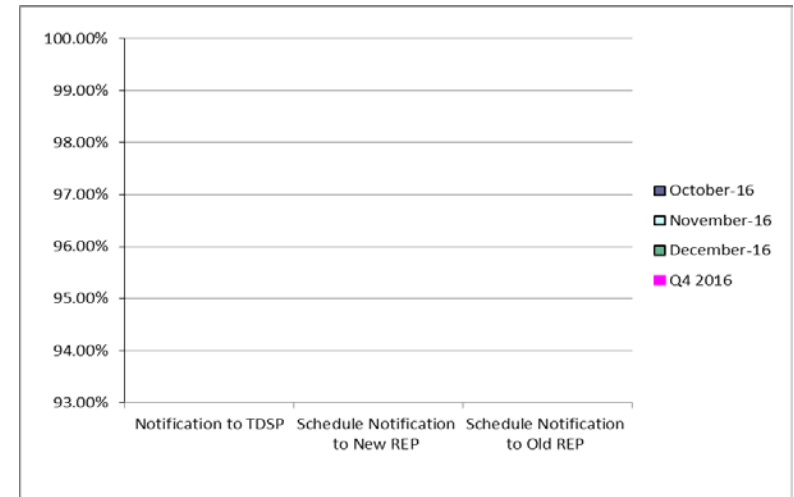
2nd Quarter



3rd Quarter

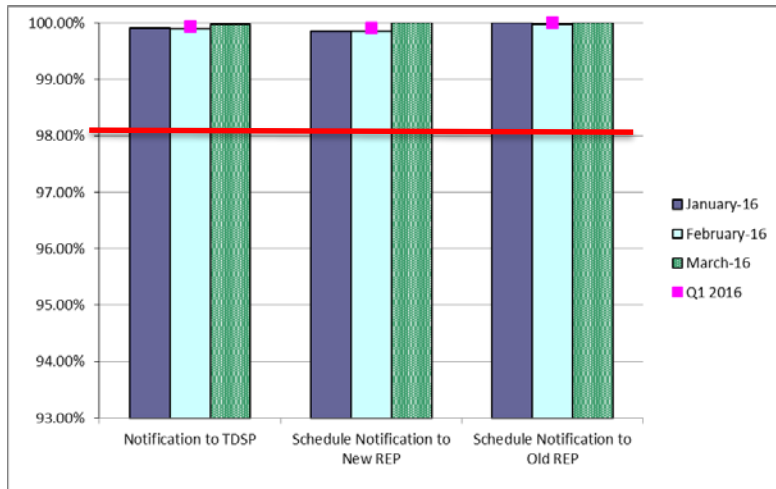


4th Quarter

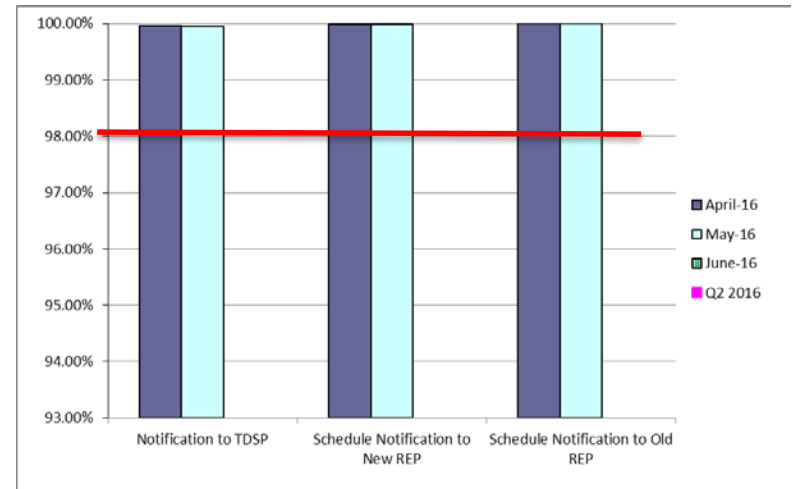


Retail Performance Measures – Standard Move-In – May 2016

1st Quarter



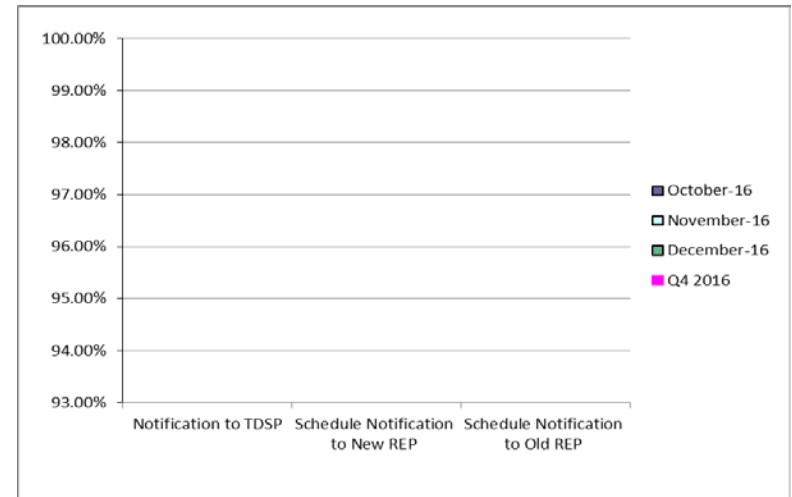
2nd Quarter



3rd Quarter



4th Quarter



Projects Report

ERCOT Portfolio Stoplight Report – May 2016

Impact Metric Tolerances		2016 Project Funding		\$ 22,500,000	2016 Portfolio Spending Estimate							
<div>Unfavorable variances are represented as negative numbers within the report.</div> <div>- Green = No more than 4.9% unfavorable variance</div> <div>- Yellow = Unfavorable variance between 4.9% and 9.9%</div> <div>- Red = Unfavorable variance more than 9.9%</div>		Projects In Flight/On Hold (Count = 57)			\$ 14,831,376		<div>Note: Approximately \$1.75M in PPL spending was accelerated from 2016 to 2015</div>					
		Projects Not Yet Started (Count = 21)			\$ 1,466,519							
		Projects Completed (Count = 13)			\$ 203,103							
		Carryover of Excess 2015 Project Spending			\$ 1,743,545							
		Spending Reductions Required to Maintain Capital Budget			\$ -							
		TOTAL			\$ 18,244,543							
						<div>Footnotes</div> <div>1 - One or more phases took longer than expected, resulting in additional time required</div> <div>2 - One or more phases required more labor than expected, resulting in additional funding and/or time required</div> <div>3 - Project placed on hold</div> <div>NA - Metric not calculated because:<div>- it is reported at the parent project level, or</div><div>- it is an administrative project</div></div>						
Project Number		Projects in Initiation Phase (Count = 2)										
TBD		AREA - Demand and Energy Report										
196-01		GINR Project Status Application Replacement										
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		
141-01		Production Virtualization			6/1/2016	7/27/2016	TBD	7/27/2016		0%		
158-01		Load Forecast Enhancements			1/14/2015	6/19/2015	TBD	7/13/2016	2	-250%	2	-83%
170-03		ECAP - Enterprise Content Management System (Proof of Concept)			1/13/2016	5/17/2016	TBD	7/18/2016	1	-49%		78%
170-04		ECAP - ERCOT Information Governance and Taxonomy			1/13/2016	6/6/2016	TBD	6/9/2016		-2%		74%
172-01		Physical Security Project #2			8/27/2015	6/8/2016	TBD	6/15/2016		-2%		4%
173-01		ERCOT Flight Certification Website			7/23/2015	11/2/2016	TBD	11/2/2016		0%		44%
181-01		CRR Framework Upgrade			12/16/2015	8/31/2016	TBD	8/31/2016		0%		0%
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	8/24/2016		3%		1%
190-01		SharePoint Governance Project			4/27/2016	7/20/2016	TBD	7/20/2016		0%		-1%
193-01		PMU Tool Evaluation and Implementation			5/4/2016	11/9/2016	TBD	11/9/2016		0%		0%
Various		2015 CMM NPRRs			12/16/2015	8/17/2016	TBD	8/17/2016		0%		12%
Various		NPRR495 and NPRR736 Changes to Ancillary Services Capacity Monitor			6/1/2016	7/20/2016	TBD	7/20/2016		0%		-1%
SCR777		Bilateral CRR Interface Enhancement			12/16/2015	8/31/2016	TBD	8/31/2016		0%		See #181-01
SCR786		Retail Market Test Environment			4/13/2016	6/1/2016	TBD	6/22/2016	1	-42%		0%
NPRR272		Definition and Participation of Quick Start Generation Resources			5/11/2016	6/29/2016	TBD	6/29/2016		0%		1%
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
NPRR495		Changes to Ancillary Services Capacity Monitor			6/1/2016	7/20/2016	TBD	7/20/2016		0%	NA	See NPRR495 and 736
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
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
NPRR736		Updates to the Ancillary Service Capacity Monitor Display			6/1/2016	7/20/2016	TBD	7/20/2016		0%	NA	See NPRR495 and 736

Note: Approximately \$1.75M in PPL spending was accelerated from 2016 to 2015

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Project Number	Projects in Execution Phase (Count = 23)	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	6/16/2016	11/21/2016	-3%	9%
065-01	NMMS Upgrade	12/17/2014	9/22/2016	9/22/2016	10/31/2016	0%	-2%
169-01	Short Circuit Ratio Functionality	1/20/2016	9/19/2016	9/19/2016	9/30/2016	0%	23%
170-01	Enterprise Content Alignment Program	8/26/2015	11/15/2017	9/25/2017	9/25/2017	6%	-13%
170-05	ECAP - ERCOT Identity Alignment	2/24/2016	7/30/2016	6/30/2016	6/30/2016	19%	-39%
174-01	2015 Outage Scheduler Enhancements	12/2/2015	9/14/2016	9/22/2016	10/21/2016	-2%	3%
177-01	Cyber Security Project #19	4/6/2016	7/13/2016	11/18/2016	12/14/2016	-130%	0%
179-01	Infoblox Hardware Refresh	2/4/2016	8/12/2016	8/17/2016	8/17/2016	-2%	7%
180-01	Upgrade of MDM - GEMS	3/30/2016	6/17/2016	6/2/2016	7/13/2016	18%	28%
187-00	Capital Efficiencies and Enhancements - 2016	1/1/2015	12/31/2016	12/31/2016	12/31/2016	0%	0%
188-01	Mass Transition/Acquisition Enhancements (MTAQ)	5/25/2016	4/2/2017	4/2/2017	5/17/2017	0%	1%
189-01	Enterprise Resource Planning	4/13/2016	9/27/2016	9/27/2016	11/2/2016	0%	13%
191-01	CRR Auction Improvements	4/27/2016	8/18/2016	8/18/2016	10/26/2016	0%	-1%
Various	NPRR617 and 700 Implementation	1/27/2016	6/23/2016	6/23/2016	8/10/2016	0%	-7%
RMGRR126	Additional ERCOT Validations for Customer Billing Contact Information File	5/25/2016	4/2/2017	4/2/2017	5/17/2017	0%	See #188-01
RMGRR127	Efficiencies for Acquisition Transfer	5/25/2016	4/2/2017	4/2/2017	5/17/2017	0%	See #188-01
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
NPRR515	Day-Ahead Market Self-Commitment of Generation Resources	10/5/2015	3/31/2016	6/23/2016	7/7/2016	-47%	-21%
NPRR553	Monthly BLT Payment and Charge for Presidio Exception	4/9/2015	6/23/2016	6/23/2016	6/23/2016	0%	NA See #187-00
NPRR617	Energy Offer Flexibility	1/27/2016	6/23/2016	6/23/2016	8/10/2016	0%	NA See NPRR617 / NPRR700
NPRR662	Proxy Energy Offer Curves	3/2/2016	8/11/2016	8/18/2016	8/18/2016	-4%	-3%
NPRR700	Utilizing Actual Fuel Costs in Startup Offer Caps	1/27/2016	6/23/2016	6/23/2016	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	
NPRR419	Revise Real Time Energy Imbalance and RMR Adjustment Charge	1/13/2016	4/12/2016	4/12/2016	6/6/2016		0%	2	-25%
168-01	Configuration Management System Requirements for CIP v5 Readiness	7/6/2015	12/16/2015	12/16/2015	7/1/2016		0%	2	-26%
171-01	CIP v5 Readiness Project	7/22/2015	4/29/2016	4/29/2016	6/6/2016		0%		-2%
Project Number	Projects On Hold (Count = 5)	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	
166-01	Jboss Application Monitoring & Management (JAMM)	TBD	TBD	TBD	TBD	3		3	
Project Number	Projects Completed (Count =13)	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%		23%
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
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%		13%
NPRR686	Changing the IRR Forecast from Next 48 Hours to Next 168 Hours	9/16/2015	2/19/2016	2/10/2016	3/30/2016		5%	NA	0%
116-01	Collage Replacement	2/6/2014	9/22/2014	2/29/2016	4/7/2016	2	-230%	2	-118%
120-01	IT Production Hardening	5/21/2015	4/1/2016	4/14/2016	4/27/2016		-4%		33%
134-01	Privileged Account Management	4/1/2015	9/30/2015	9/30/2015	1/27/2016		0%		14%
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	3/2/2016	1	-6%		3%
161-01	NPRRs 588 and 615	9/16/2015	2/19/2016	2/9/2016	3/30/2016		6%		-1%
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%

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Project Number	2016 Projects Not Yet Started (Count = 21)	Forecast Start Date
NPRR741	Clarifications to TPE and EAL Credit Exposure Calculations	Jun-2016
NPRR743	Revision to MCE to Have a Floor For Load Exposure	Jun-2016
NOGRR147	Reactive Power Testing Requirements	Jun-2016
SCR787	Maintain NDCRC Data For Generator Transfer Between Resource Entities	Jun-2016
TBD	Reactive Power Coordination	Jun-2016
TBD	Appworx Application Manager Upgrade	Jul-2016
TBD	Appworx Replaces TIBCO Code in CSI Framework	Jul-2016
TBD	REC Rewrite & Refresh	Jul-2016
TBD	Replace Sun DSEE	Jul-2016
NPRR714	Real-Time Make-Whole Payment for Exceptional Fuel Cost	Aug-2016
TBD	Automation of NPRR487 - QSGR Dispatch Adjustment	Aug-2016
TBD	EIF Database Utilization	Aug-2016
TBD	Emergency Energy Settlements Inputs Automation	Aug-2016
NPRR649	Addressing Issues Surrounding High Dispatch Limit (HDL) Overrides	Sep-2016
NPRR746	Adjustments Due to Negative Load	Sep-2016
TBD	Replace Paperfree	Sep-2016
NPRR744	RUC Trigger for the Reliability Deployment Price Adder and Alignment with RUC Settlement	Oct-2016
NOGRR084	Daily Grid Operations Summary Report	Oct-2016
RRGRR003	Modifications to Improve Wind Forecasting	Nov-2016
RRGRR006	Clarification of Descriptions and Alignment with Resource Asset Registration Forms	Nov-2016
RRGRR007	Adding Solar Resource Registration Inputs	Nov-2016