



ERCOT Monthly Operational Overview (May 2018)

ERCOT Public
June 15, 2018

Grid Planning & Operations

Summary – May 2018

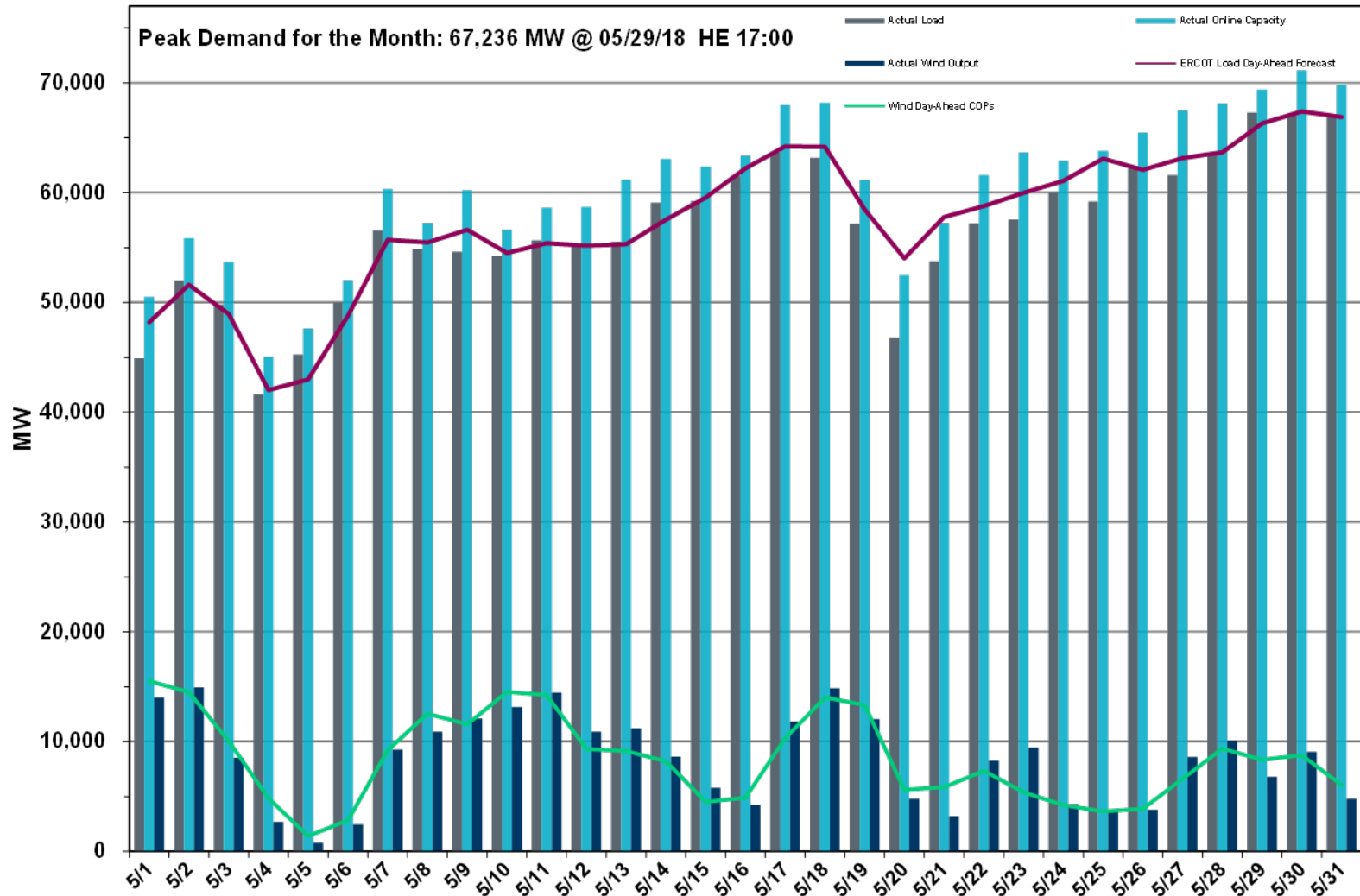
Operations

- The preliminary Settlements hourly peak demand of 67,236* MW on May 29 was higher than the day-ahead mid-term load forecast peak of 66,305 MW for the same operating hour.
 - The operational instantaneous peak demand was 67,493 MW (telemetry).
- Day-ahead load forecast error for May was 2.14%
- ERCOT issued 12 notifications:
 - Three Transmission-related Watches
 - Six DC Tie-related Watches
 - Three Resource-related OCNs

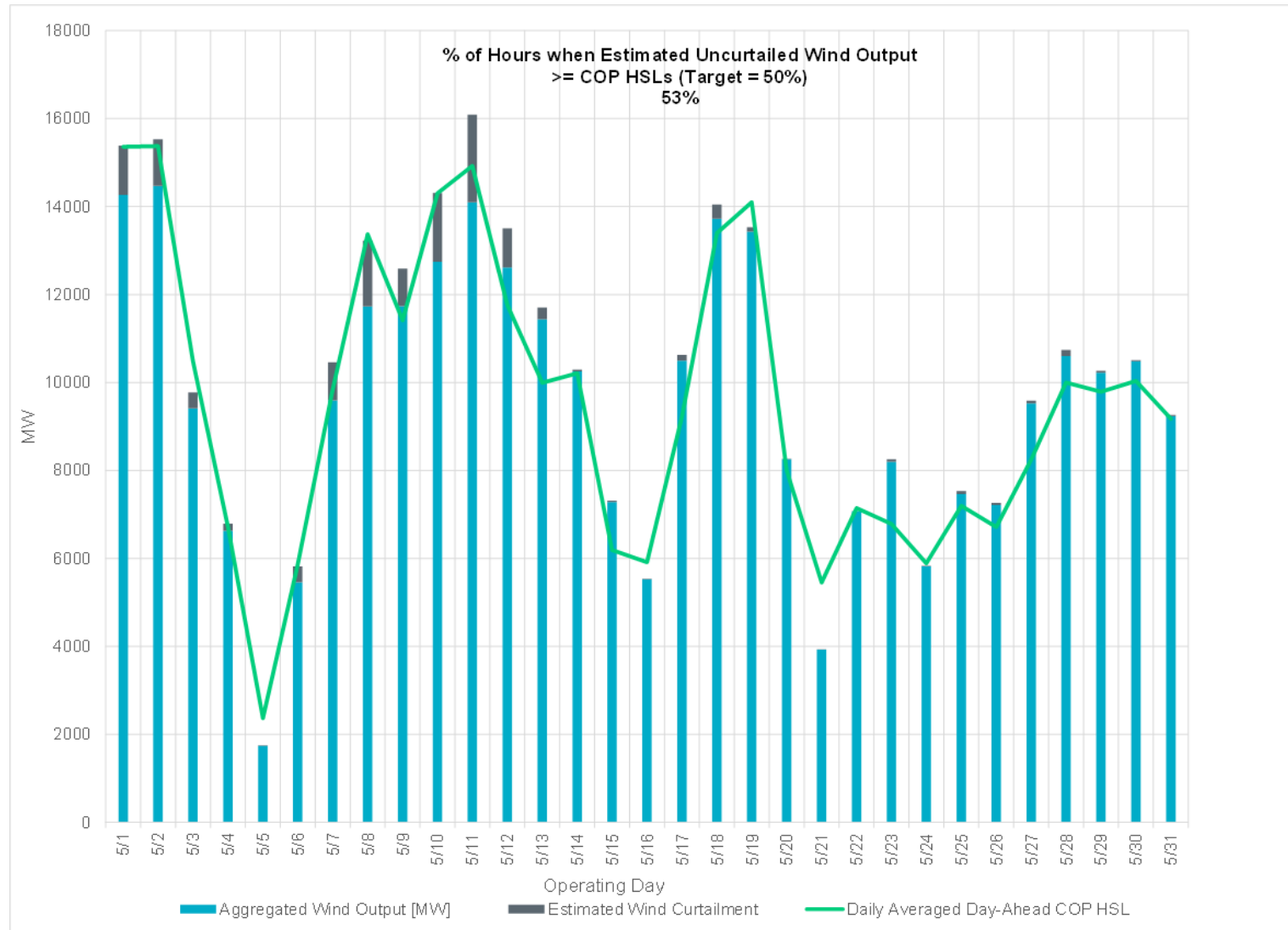
Planning Activities

- 369 active generation interconnection requests totaling 75,207 MW, including 33,799 MW of wind generation, as of May 31, 2018. Twenty additional requests and an increase of 3,587 MW from April 30, 2018.
- 21,190 MW wind capacity in commercial operations as of June 1, 2018.

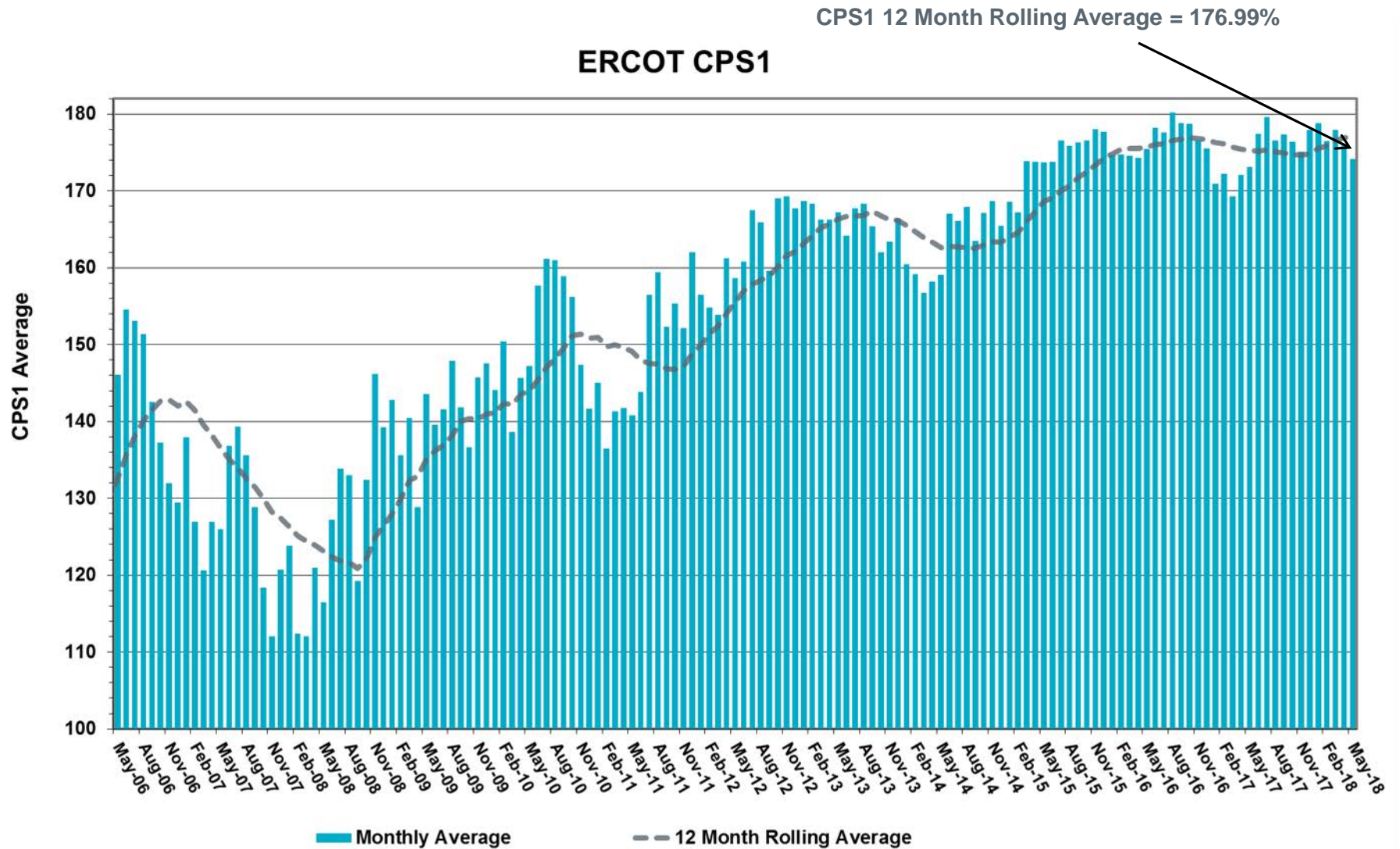
Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-Line Capacity at Peak – May 2018



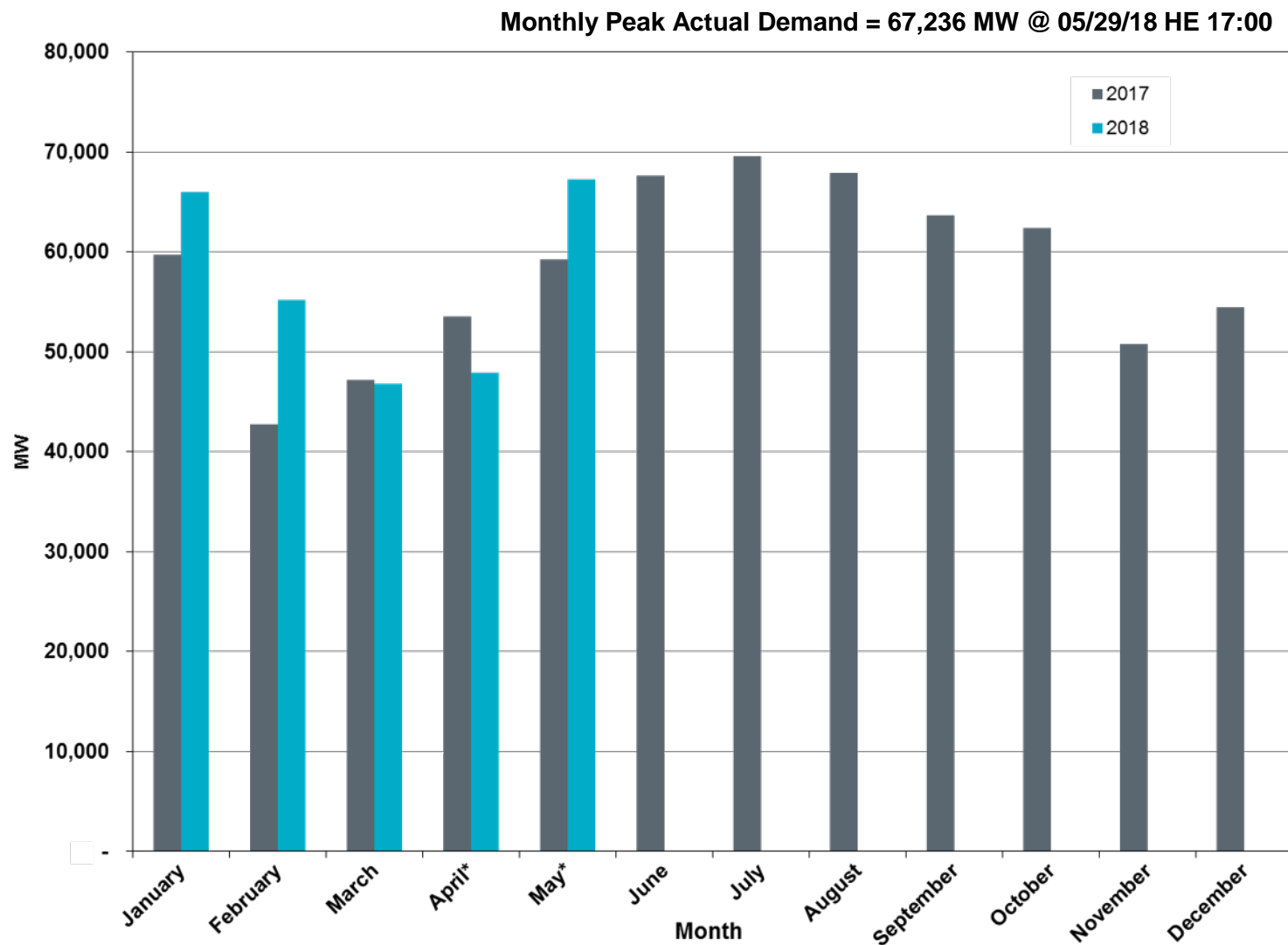
Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – May 2018



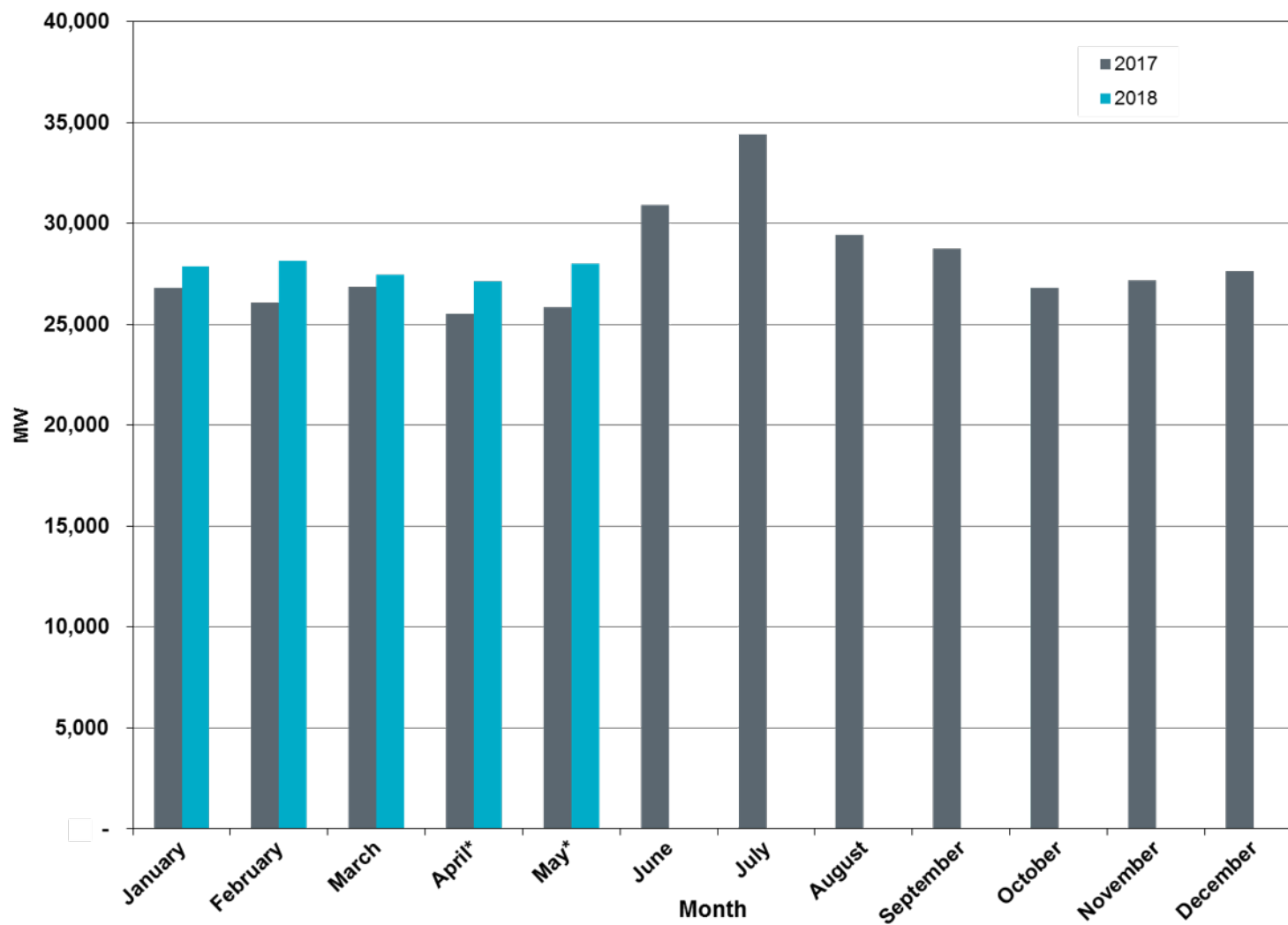
ERCOT's CPS1 Monthly Performance – May 2018



Monthly Peak Actual Demand – May 2018



Monthly Minimum Actual 15-Minute Demand – May 2018

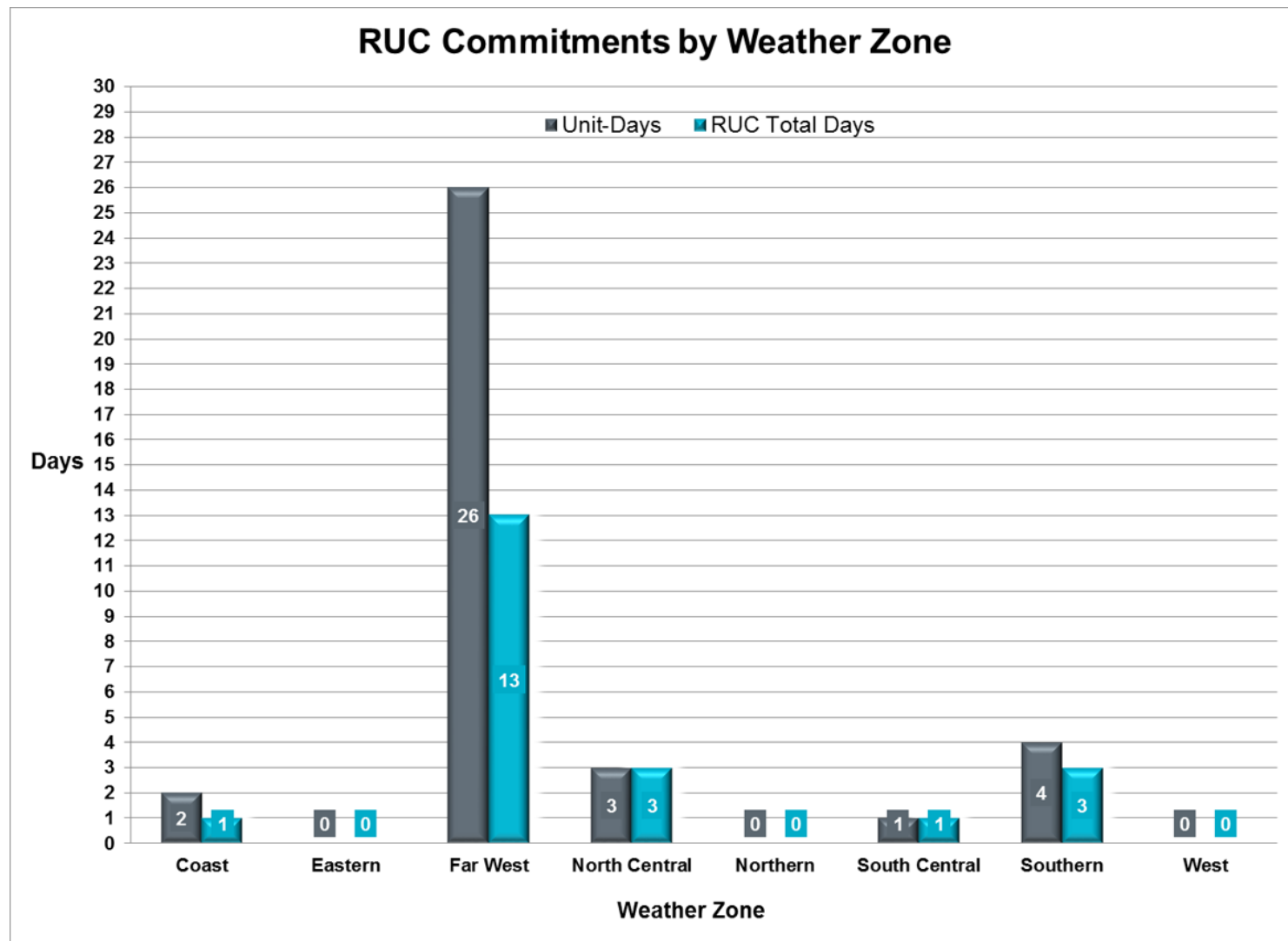


Day-Ahead Load Forecast Performance – May 2018

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

	2015 MAPE	2016 MAPE	2017 MAPE	2018 MAPE	May 2018 MAPE	
Average Annual MAPE	2.86	2.62	2.55	2.61	2.14	
Lowest Monthly MAPE	1.89	1.94	1.69	1.77	Lowest Daily MAPE	0.65 May 8
Highest Monthly MAPE	3.81	3.86	4.07	3.66	Highest Daily MAPE	7.66 May 20

Reliability Unit Commitment (RUC) Capacity by Weather Zone – May 2018



Generic Transmission Constraints (GTCs) – May 2018

GTCs	May-17 Days GTCs	Mar-18 Days GTCs	Apr-18 Days GTCs	May-18 Days GTCs	Last 12 Months Total Days (Jun 17 – May 18)
North – Houston	1	2	1	0	8
Valley Import	0	1	0	4	18
Panhandle	28	29	25	27	271
Red Tap	0	0	0	0	0
North Edinburg – Lobo	0	0	0	0	1
Nelson Sharpe – Rio Hondo	-	16	12	0	63
East Texas	-	0	0	0	16

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.

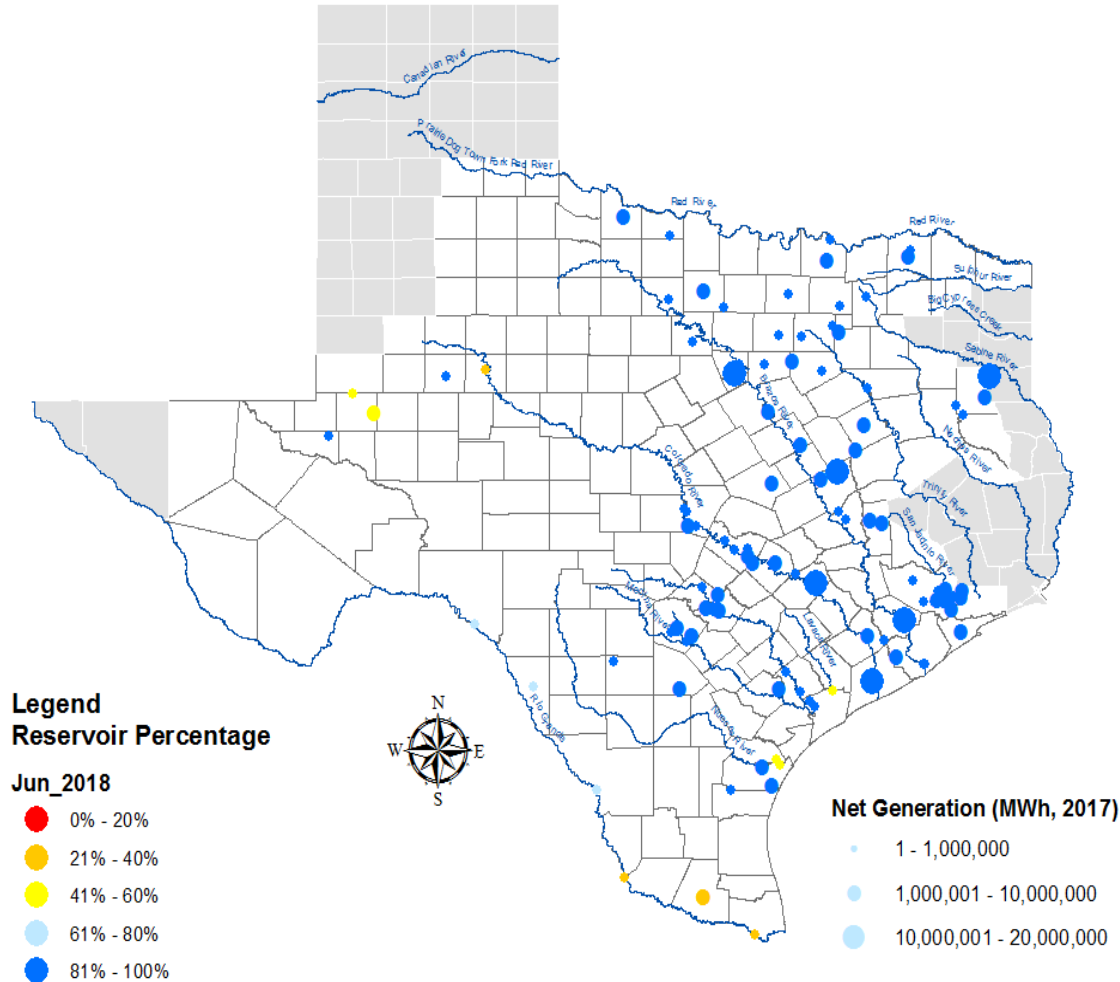
Advisories and Watches – May 2018

- One Watch issued due to the post-contingency overload of DELMTX5, loss of double circuit STP – Elm Creek 345 kV line overloads the Blessing - Palacios 69 kV line.
 - Issued 5/5
- One Watch issued for the League City, Texas City area due to multiple forced outages in the area.
 - Issued 5/9
- One Watch issued for the loss of the Laredo DC-Tie and curtailment of DC-Tie exports to CENACE
 - Issued 5/13
- One Watch issued due to the post-contingency overload of SPOLPHA8, loss of Polk Avenue – North Pharr 138 kV overloads North McAllen – West McAllen 138 kV and curtailment of DC-Tie exports to CENACE.
 - Issued 5/14
- One OCN for extreme hot weather with forecasted temp above 94 degrees in the North Central and South Central Weather Zones from 05/17/2018-05/18/2018.
 - Issued 5/14
- One OCN for Projected Capacity Reserve Shortage for HE 14-18.
 - Issued 5/15

Advisories and Watches – May 2018

- One Watch issued due to the post-contingency overload of SPHMMAS9, loss of Mason AEP - Mason Switching Station 69kV line overloads Fredericksburg Phillips Tap - Gillespie 69kV line
 - Issued 5/17
- One Watch issued due to the loss of the Laredo DC-Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 5/21
- One OCN issued for extreme hot weather with forecasted temperatures above 94 degrees in the ERCOT Region from 05/25/2018-05/31/2018.
 - Issued 5/23
- One Watch issued due to the loss of the Eagle Pass DC-Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 5/29
- One Watch issued due to the loss of the Eagle Pass DC Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 5/30
- One Watch issued due to the de-rate of the Laredo DC Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 5/30

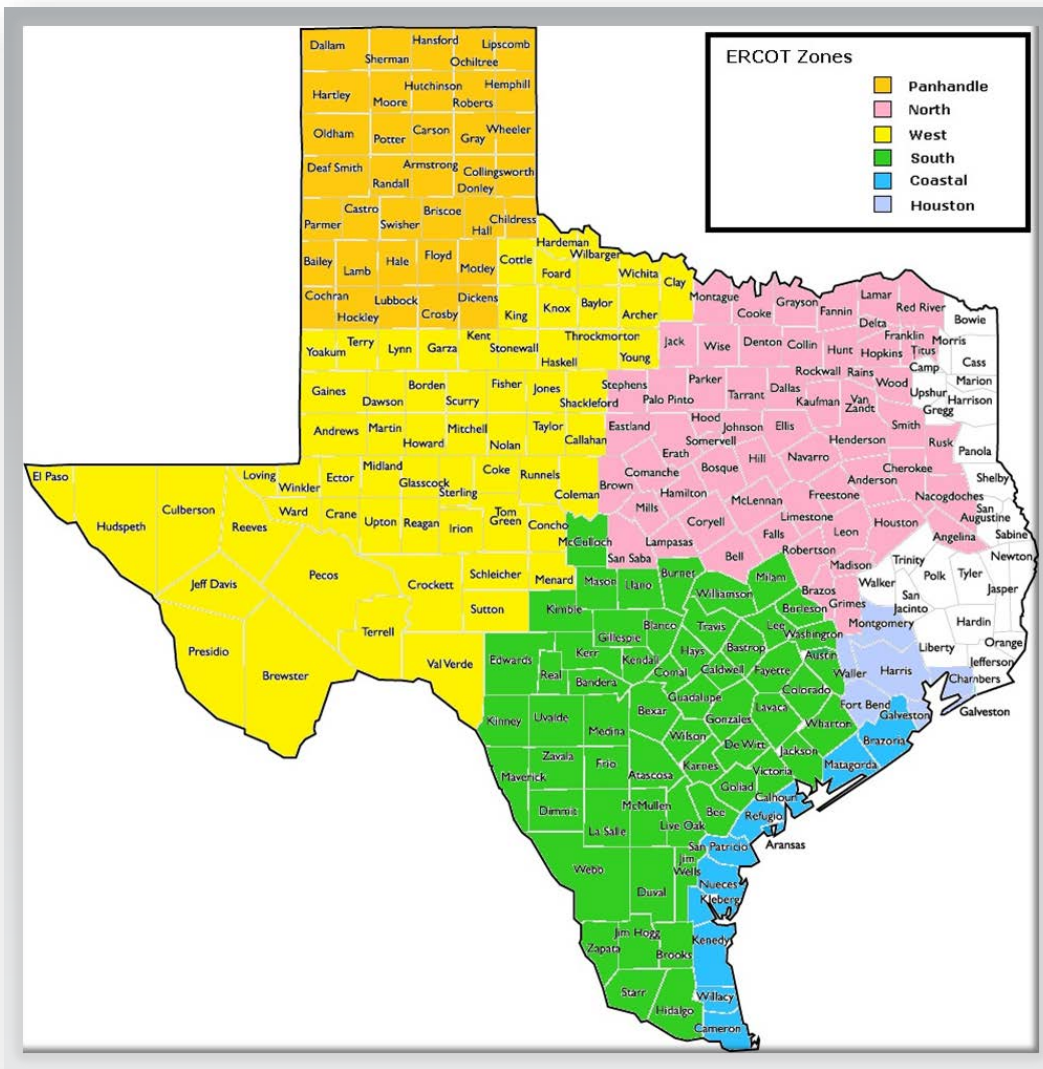
Lake Levels Update – June 1, 2018



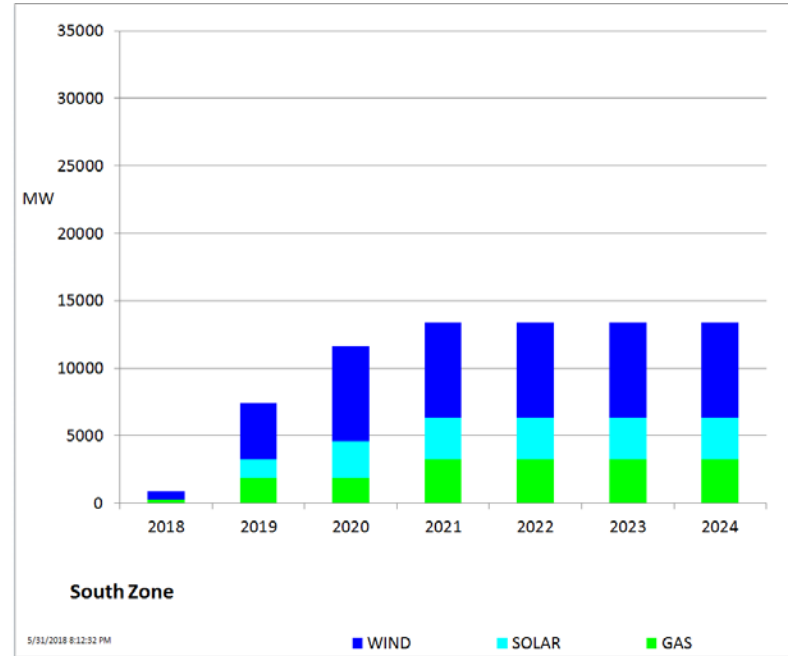
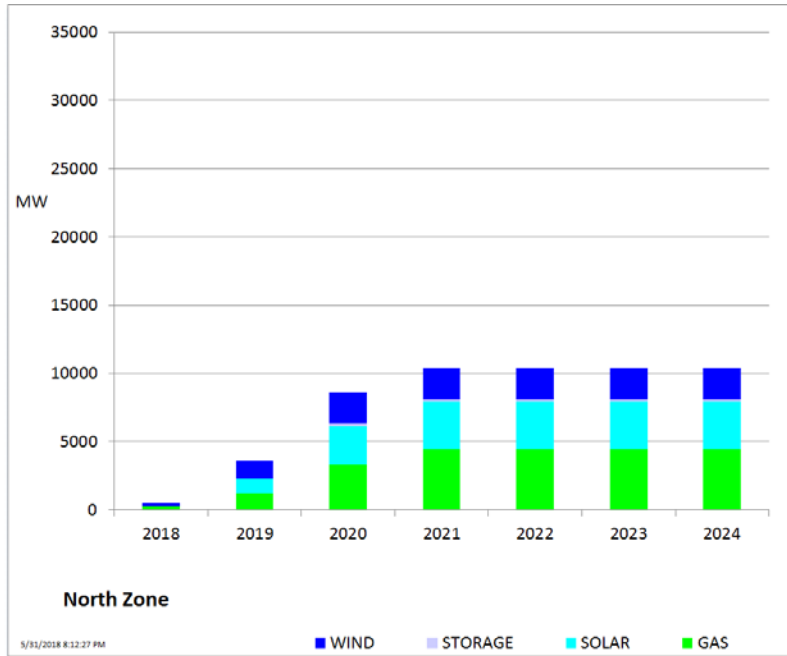
Planning Summary – May 2018

- ERCOT is currently tracking 369 active generation interconnection requests totaling 75,207 MW. This includes 33,799 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$883.5 million.
- Transmission Projects endorsed in 2018 total \$66 million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$7.21 billion (as of March 1, 2018).
- Transmission Projects energized in 2018 total about \$220.8 million (as of March 1, 2018).

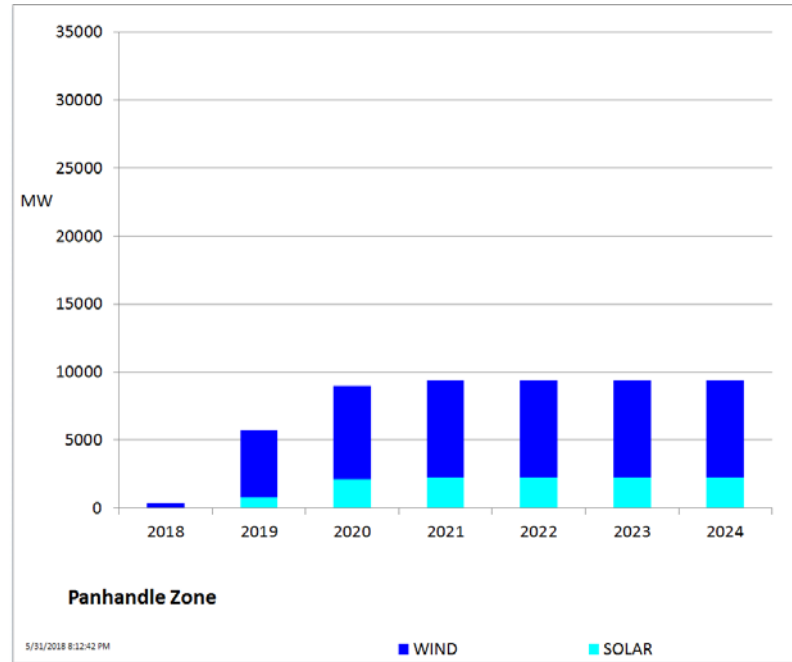
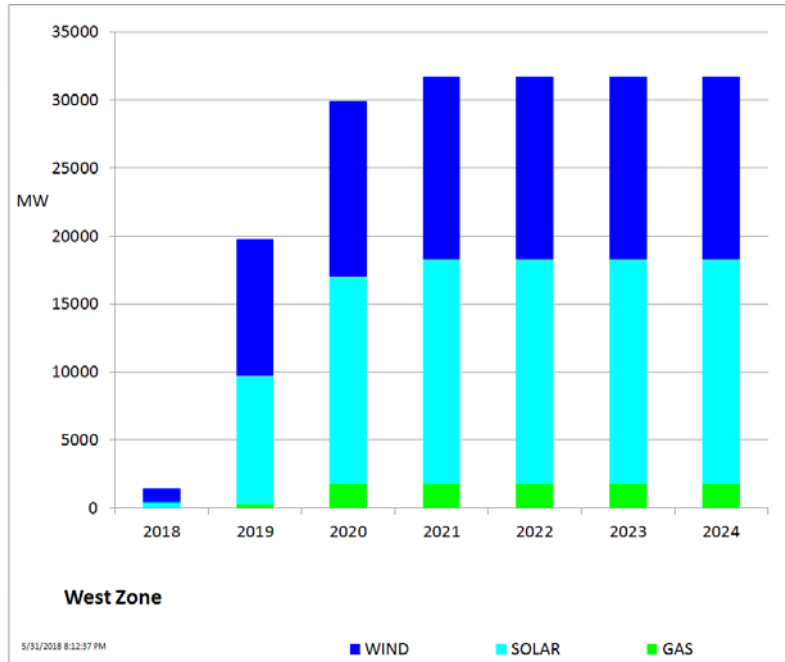
Mapping of Counties to ERCOT Zones – May 2018



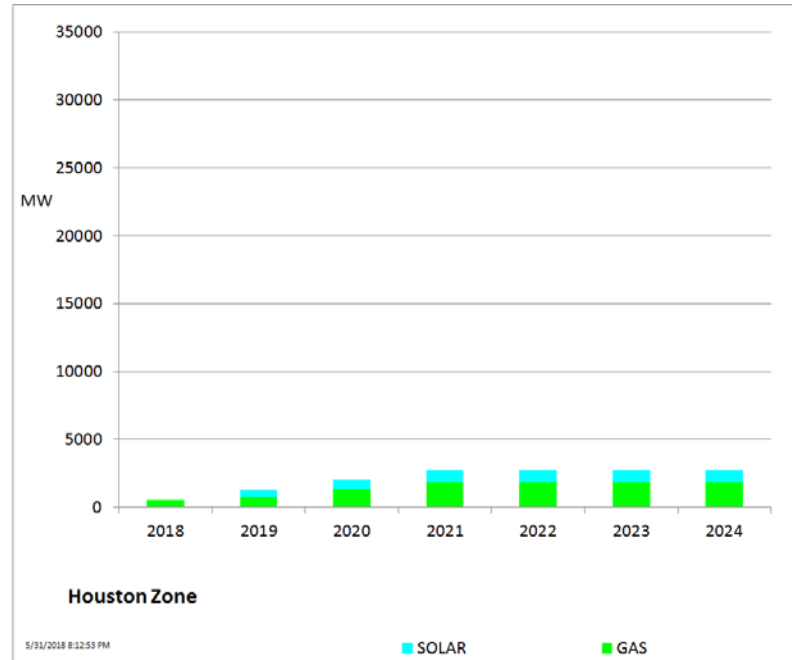
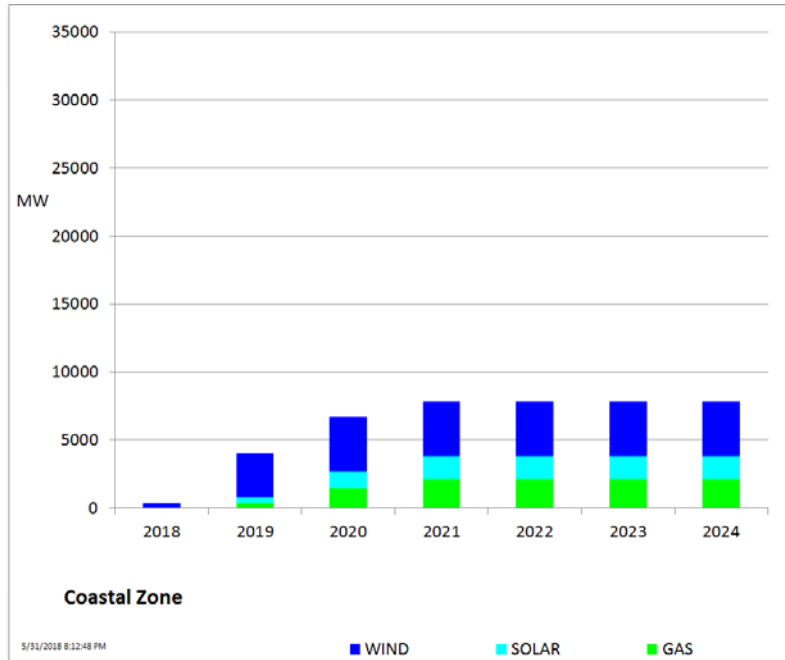
Cumulative MW Capacity of Interconnection Requests by Zone – May 2018



Cumulative MW Capacity of Interconnection Requests by Zone – May 2018

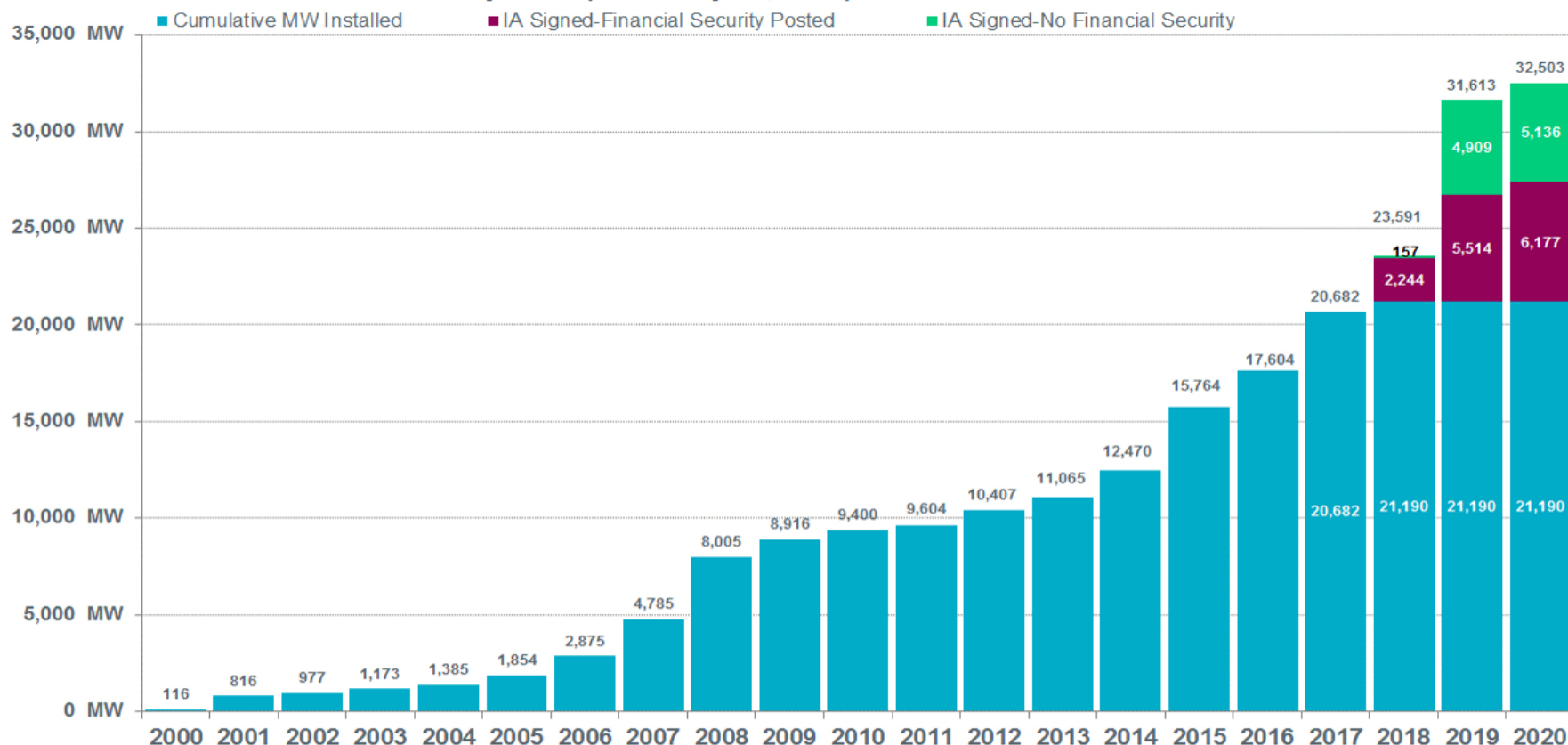


Cumulative MW Capacity of Interconnection Requests by Zone – May 2018



Wind Generation – May 2018

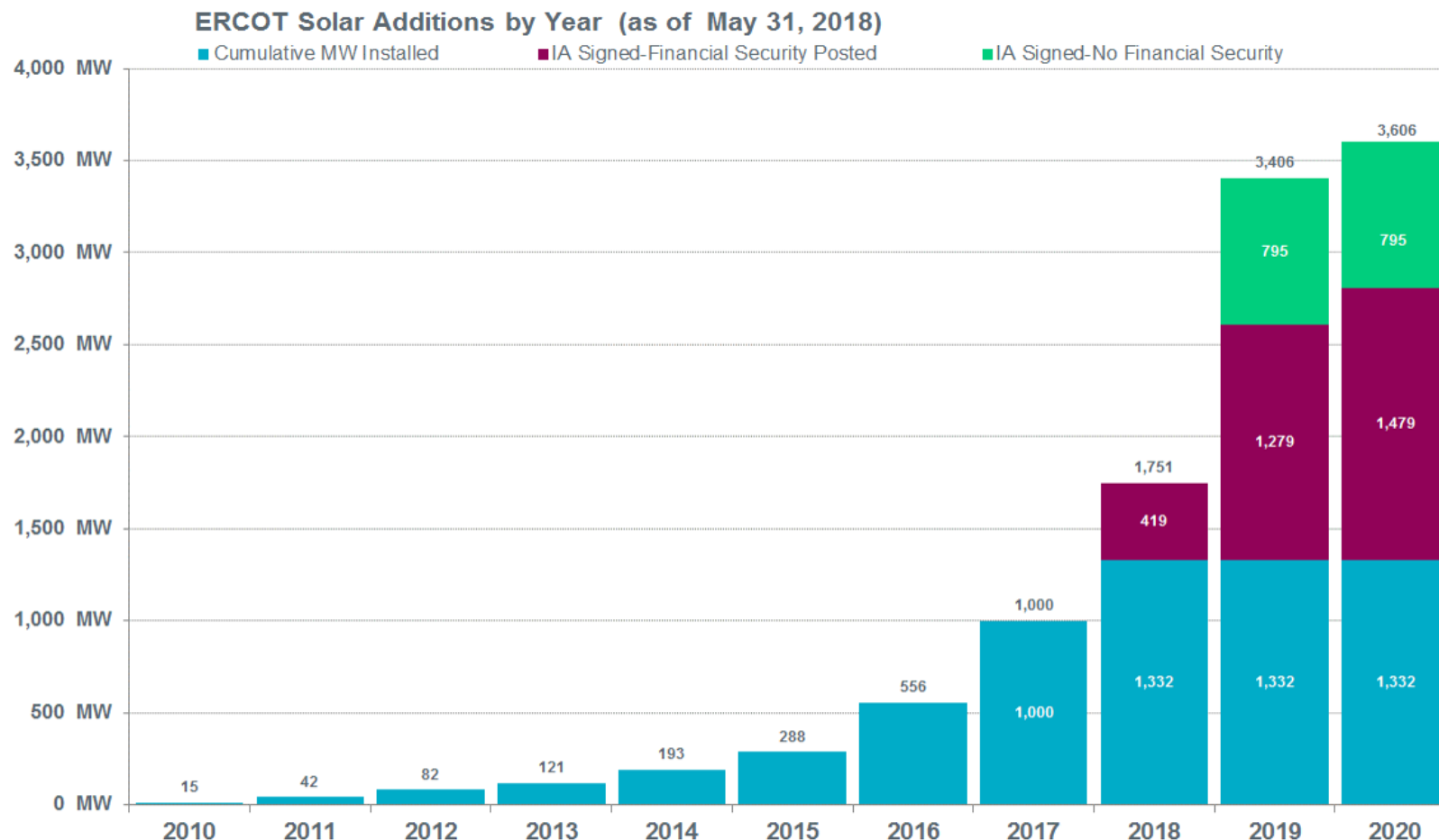
ERCOT Wind Additions by Year (as of May 31, 2018)



Notes:

- The data presented here is based upon the latest information provided to ERCOT by resource owners and developers and can change without notice.
- Installed capacities for the current year account for changes reported by the facility owners during the reporting month, and will be reflected in subsequent years' totals.
- Installed capacities include only wind facilities that have registered with ERCOT (Those larger than one megawatt and supply power to the ERCOT system.)
- This chart reports annual planned units with projected Commercial Operations Dates throughout the calendar year. In contrast, ERCOT's Capacity, Demand and Reserves (CDR) report shows planned capacity projected to be commercially available on or before the start of the Summer and Winter Peak Load seasons.
- 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.

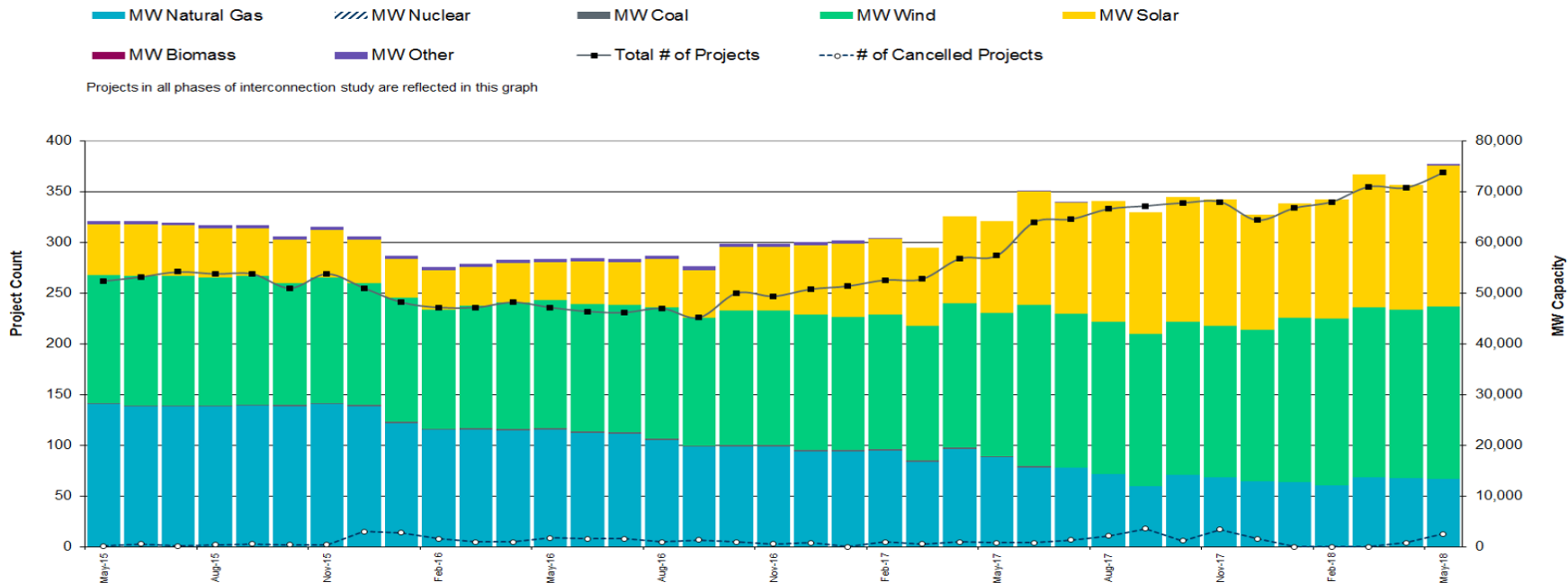
Solar Generation – May 2018



Notes:

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- Installed capacities include only solar facilities that have registered with ERCOT (Those larger than one megawatt and supply power to the ERCOT system.)
- This chart reports annual planned units with projected Commercial Operations Dates throughout the calendar year. In contrast, ERCOT's Capacity, Demand and Reserves (CDR) report shows planned capacity projected to be commercially available on or before the start of the Summer and Winter Peak Load seasons.

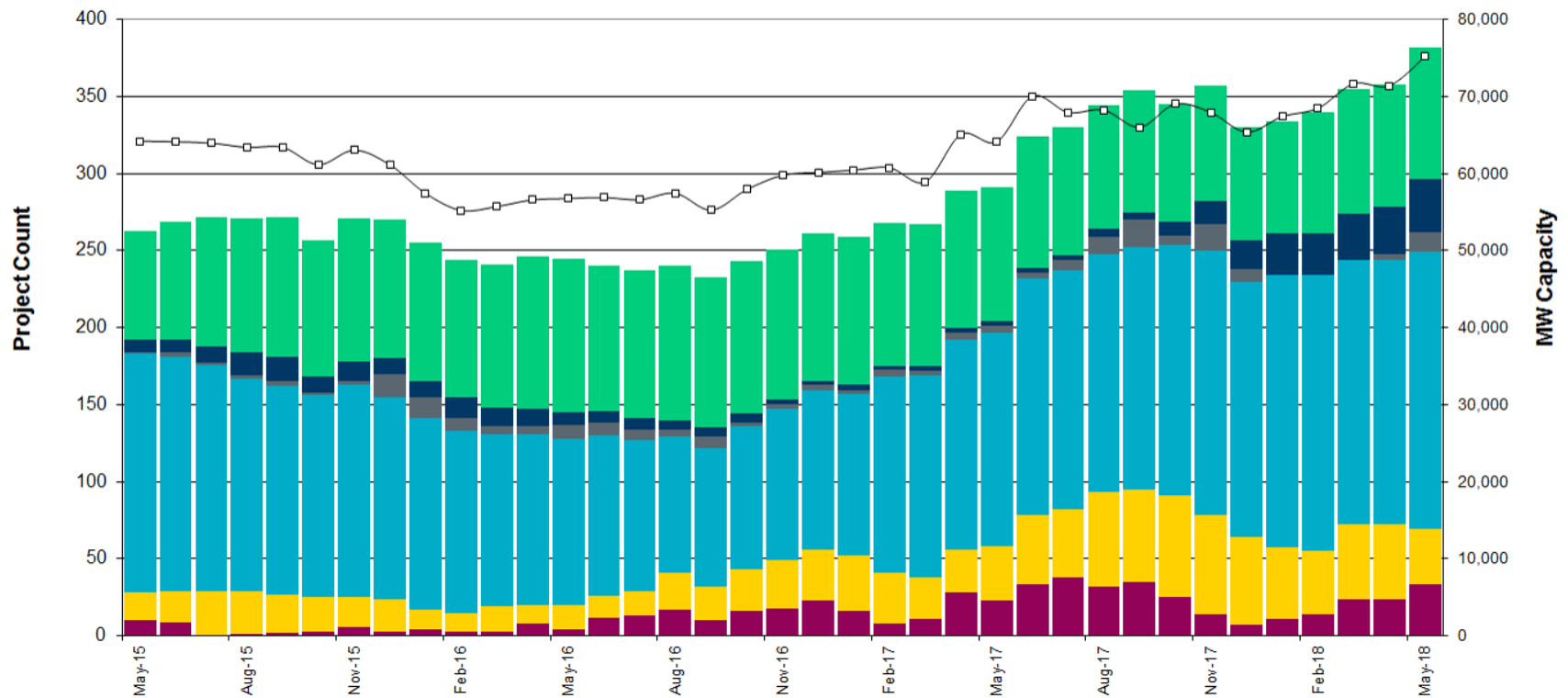
Generation Interconnection Activity by Fuel – May 2018



Generation Interconnection Activity by Project Phase – May 2018

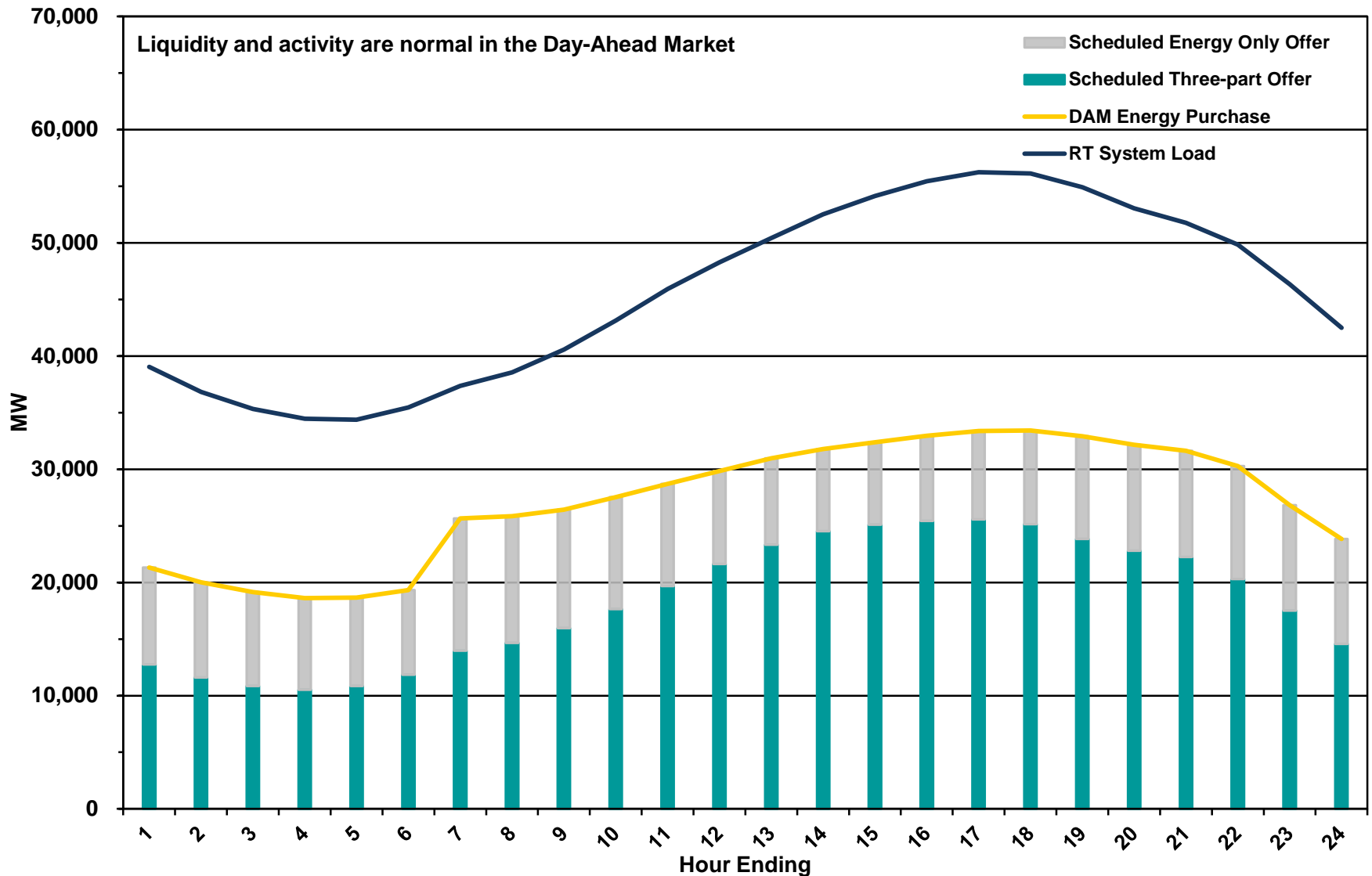
■ # Signed Interconnect Agreement
 ■ # Completed Full Study
 ■ # Projects Cancelled
 ■ # in Full Study
■ # Screening Study Complete
■ # Initial Screening Study
—□— MW Capacity Under Study *

* Nameplate capacity will change across time due to additional projects, cancellations, expirations, adjustments from study results, and projects being placed in service.

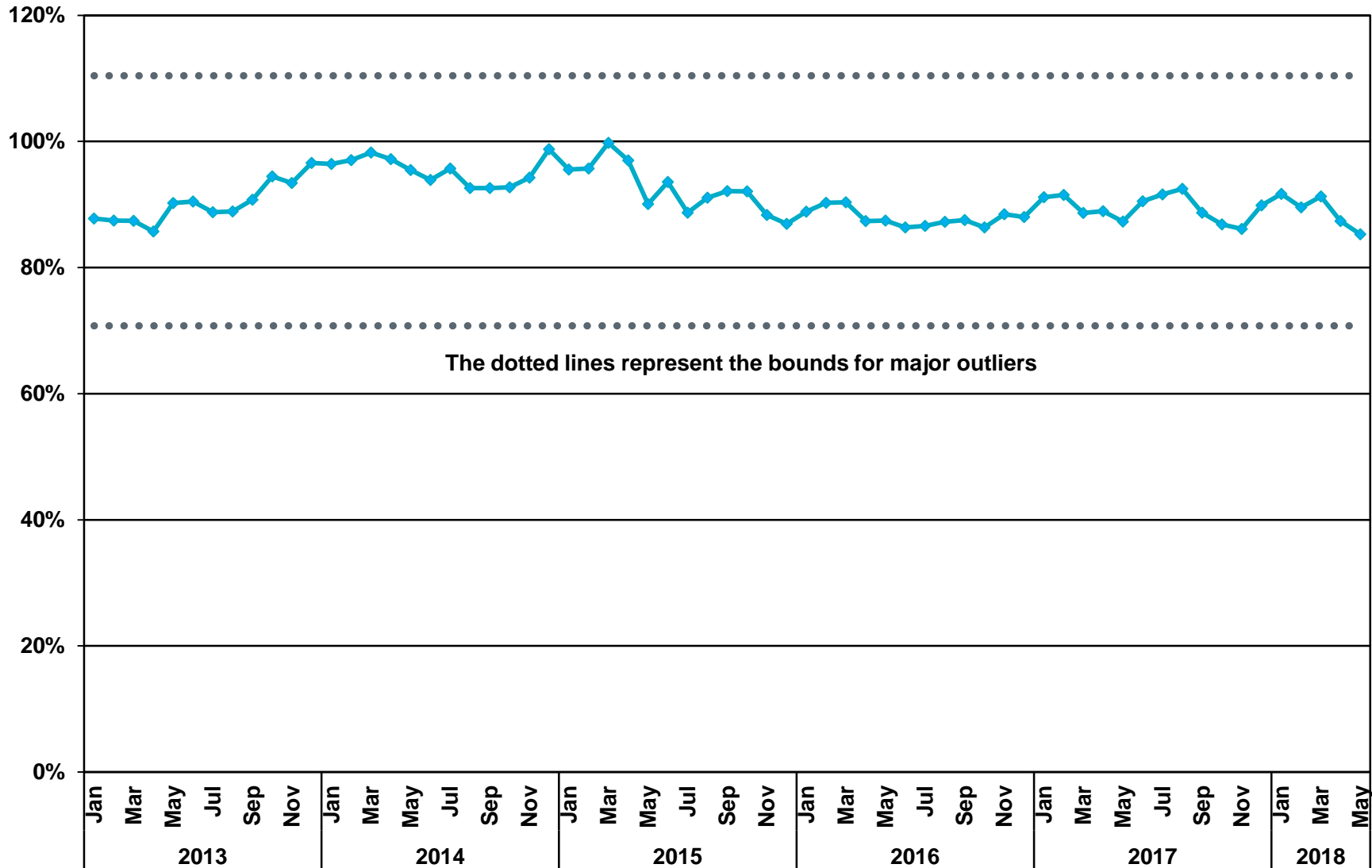


Market Operations

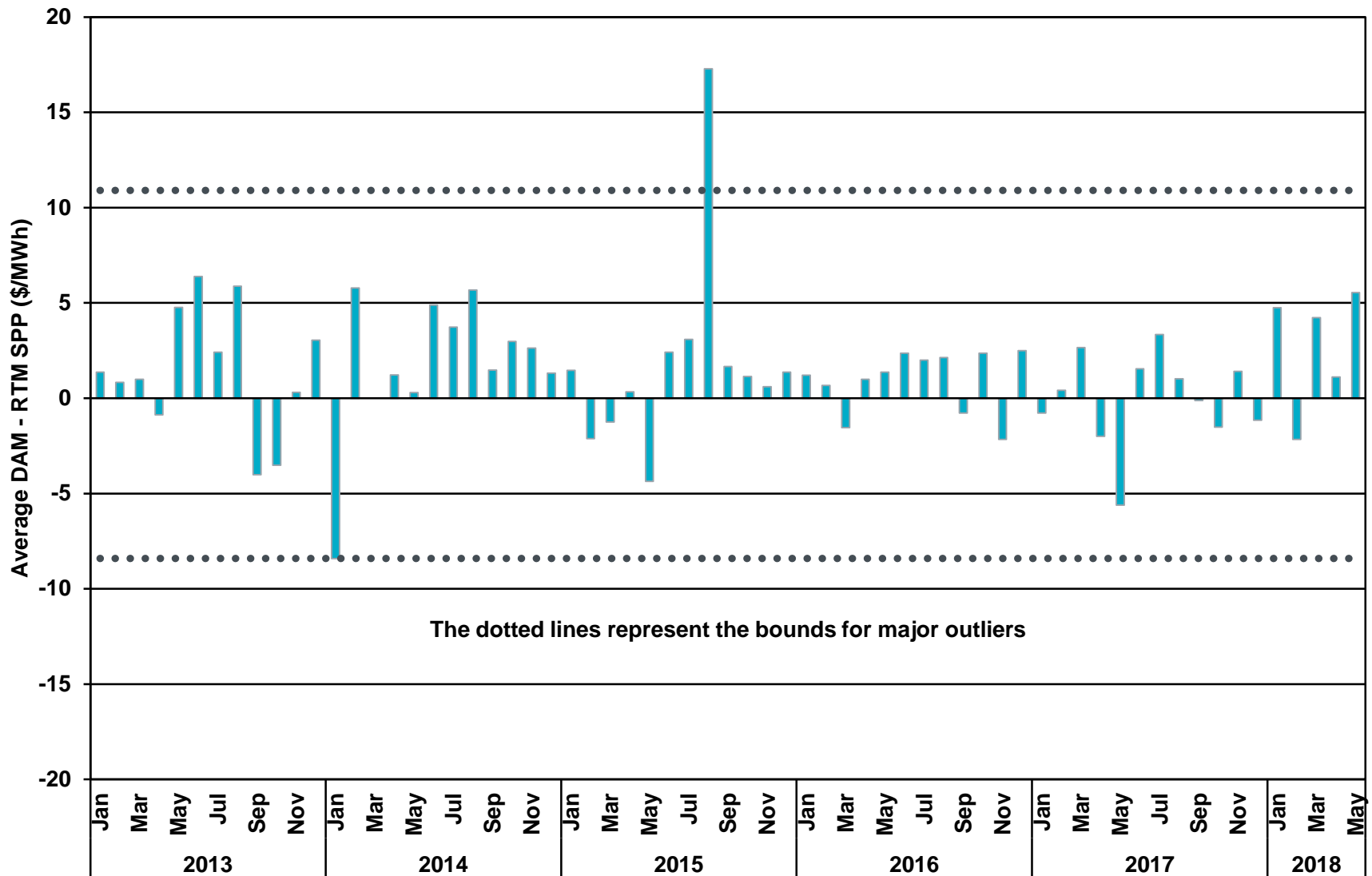
Day-Ahead Schedule (Hourly Average) – May 2018



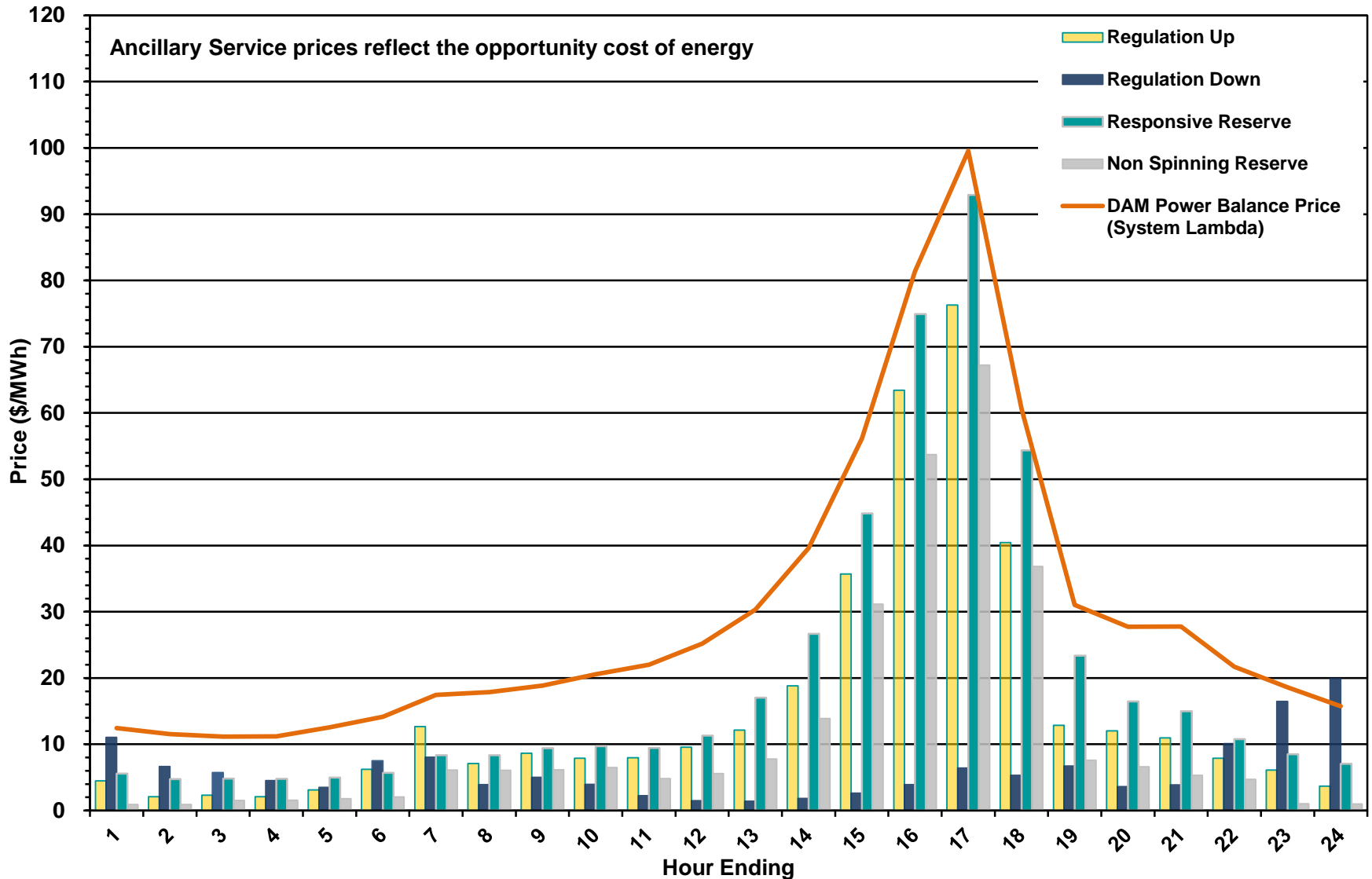
Percentage of Real-Time Load Hedged in the DAM (Counter-Party Level) – May 2018



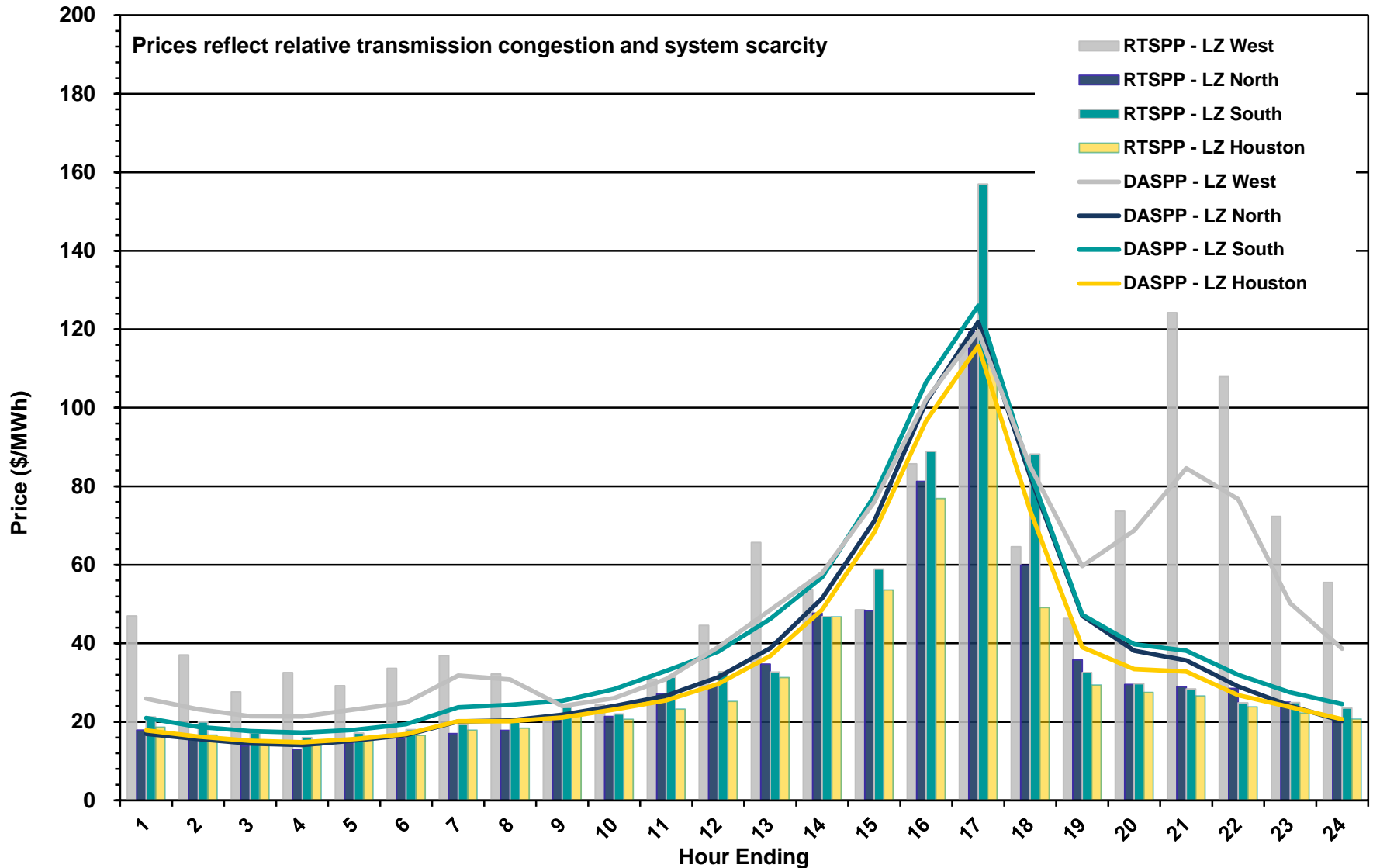
DAM and RTM Price Convergence – May 2018



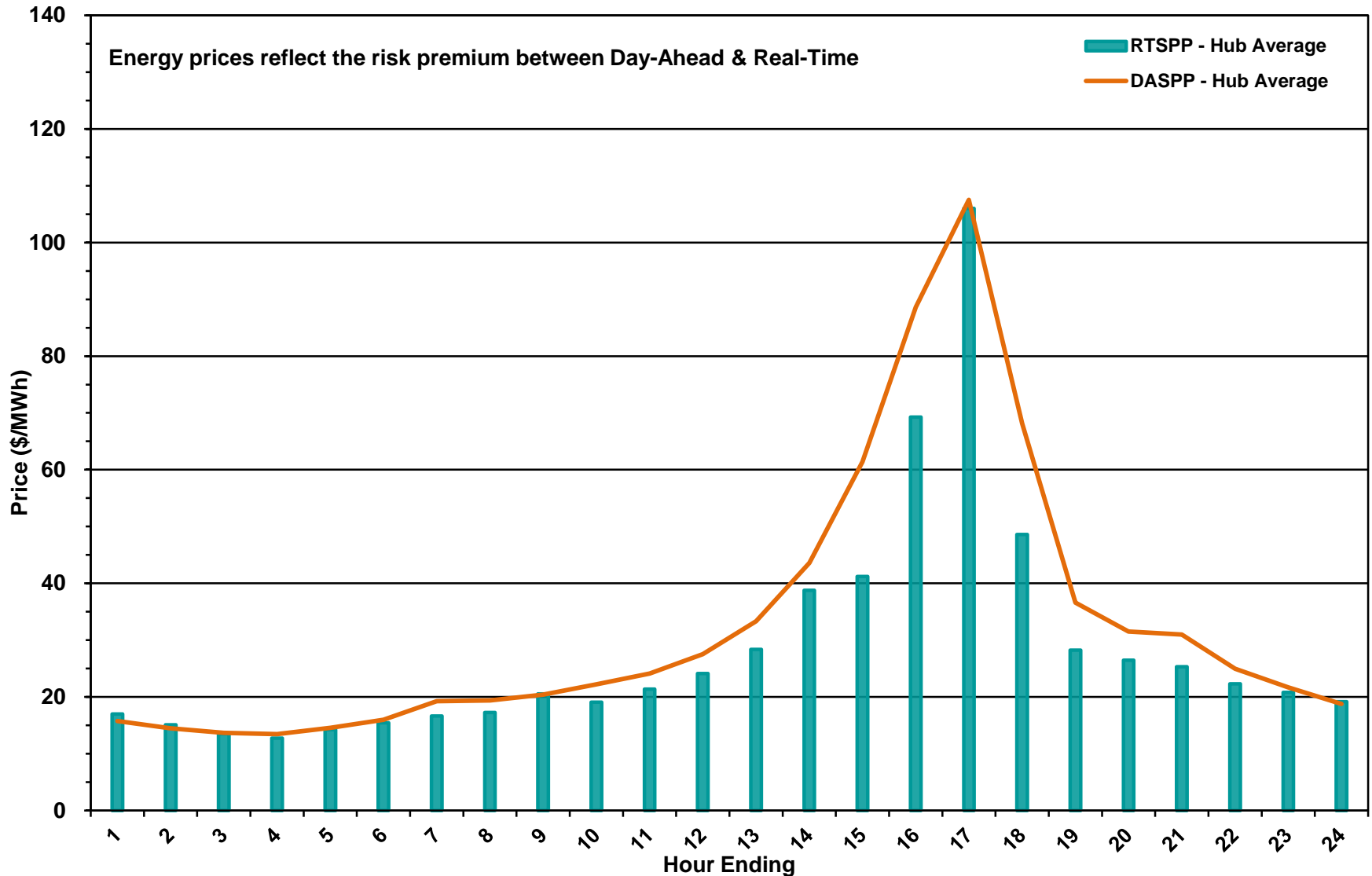
Day-Ahead Electricity and Ancillary Service Prices (Hourly Average) – May 2018



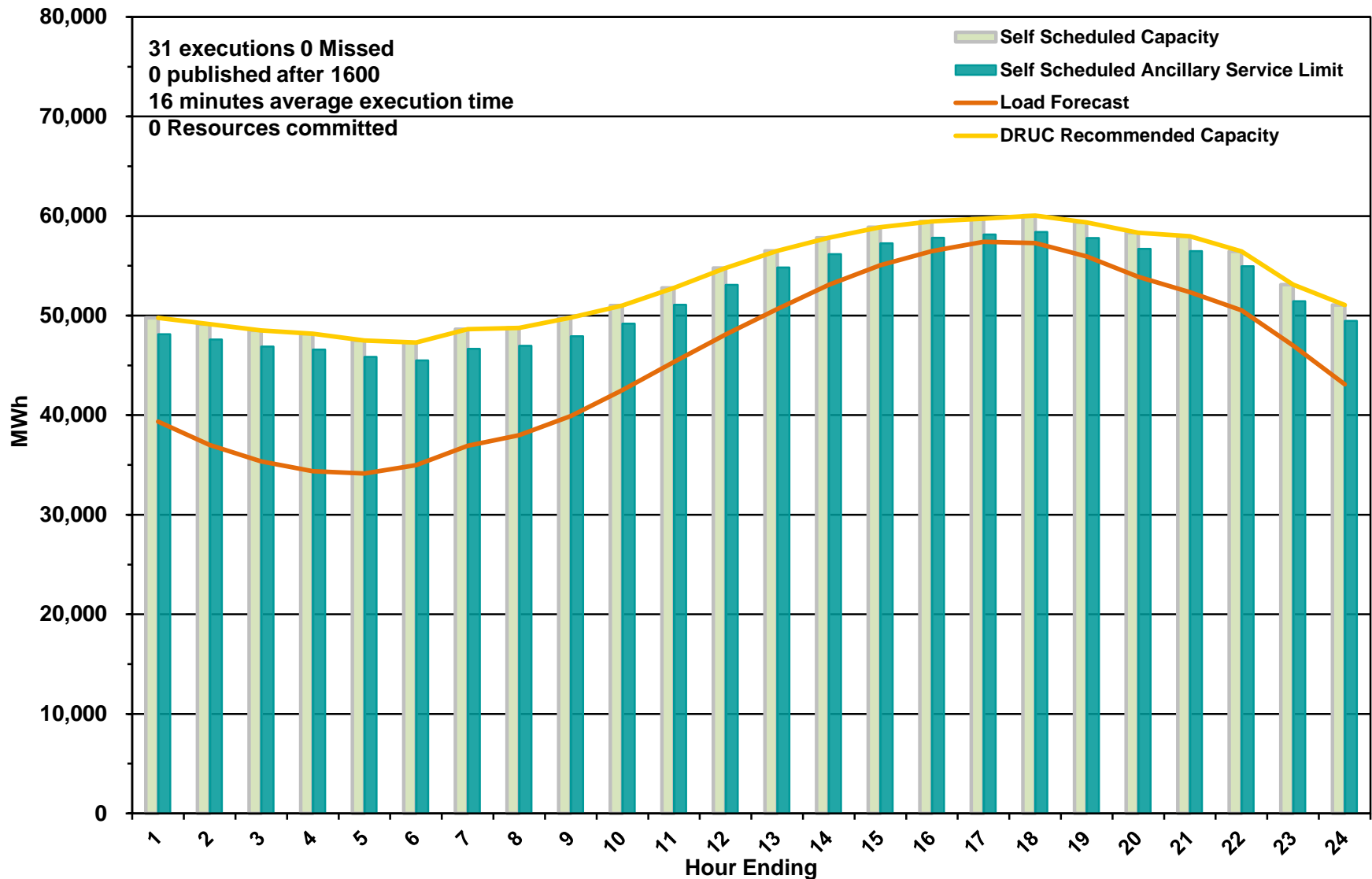
Day-Ahead vs Real-Time Load Zone SPP (Hourly Average) – May 2018



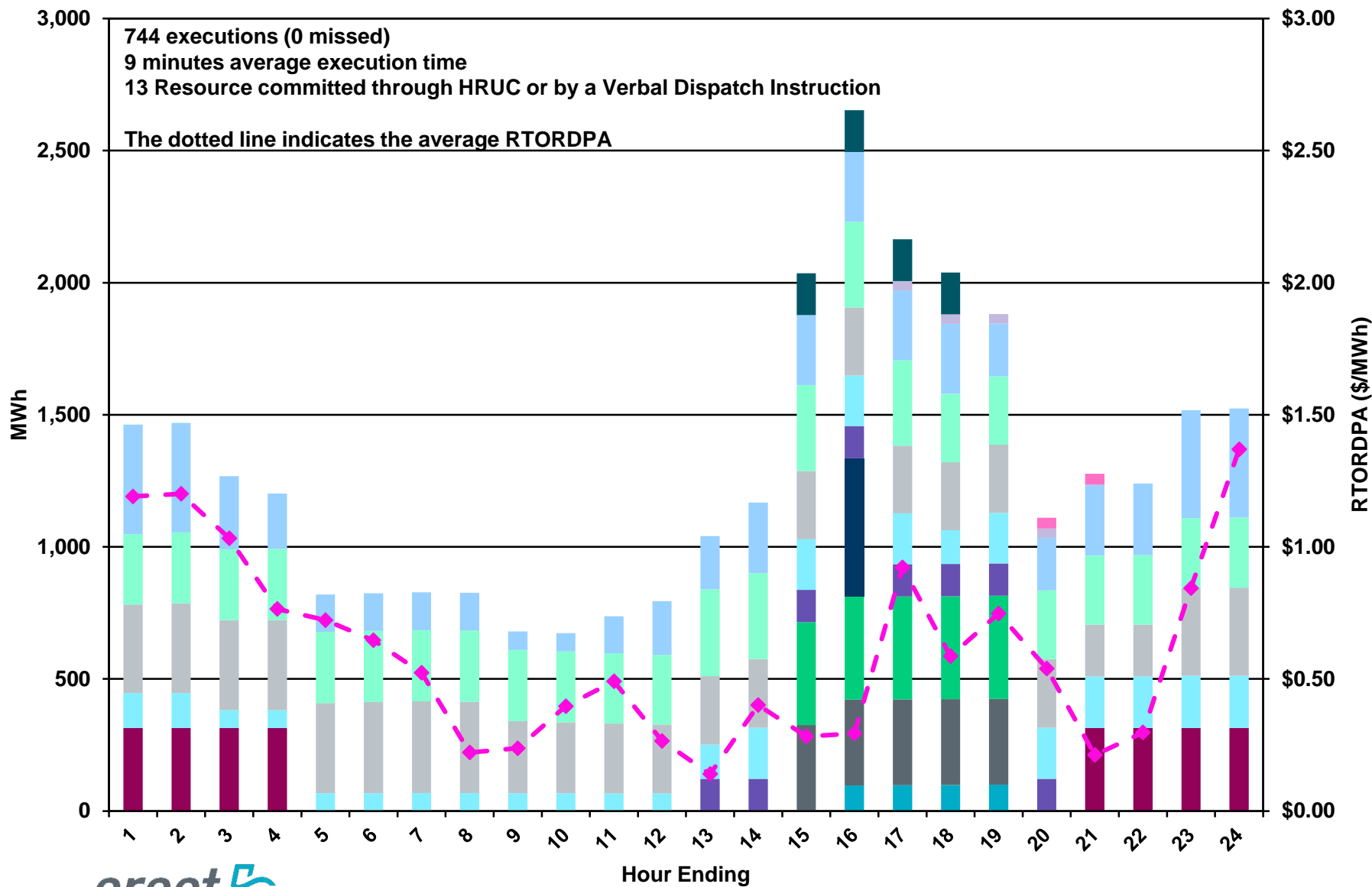
Day-Ahead vs Real-Time Hub Average SPP (Hourly Average) – May 2018



DRUC Monthly Summary (Hourly Average) – May 2018



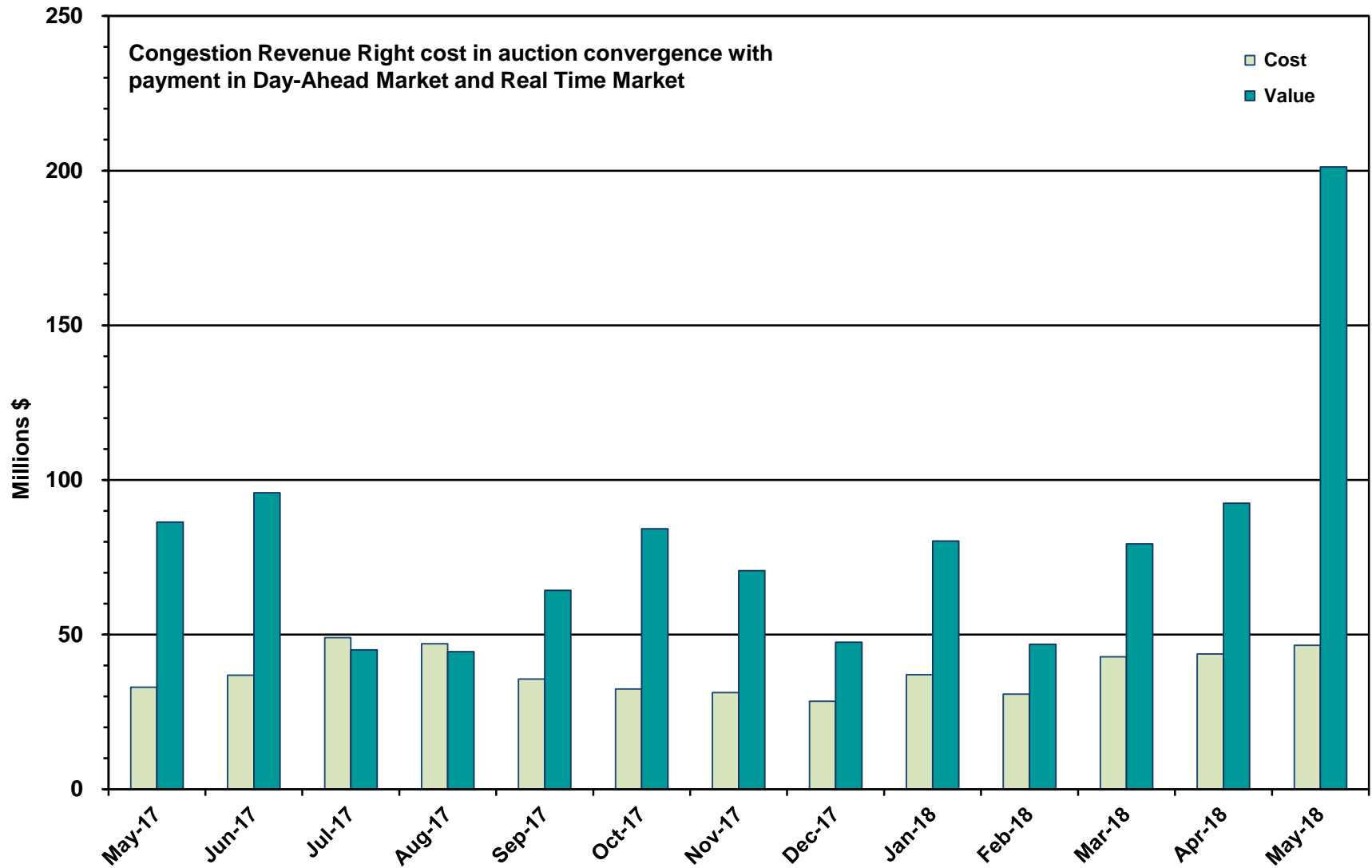
HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) (Hourly Average) – May 2018



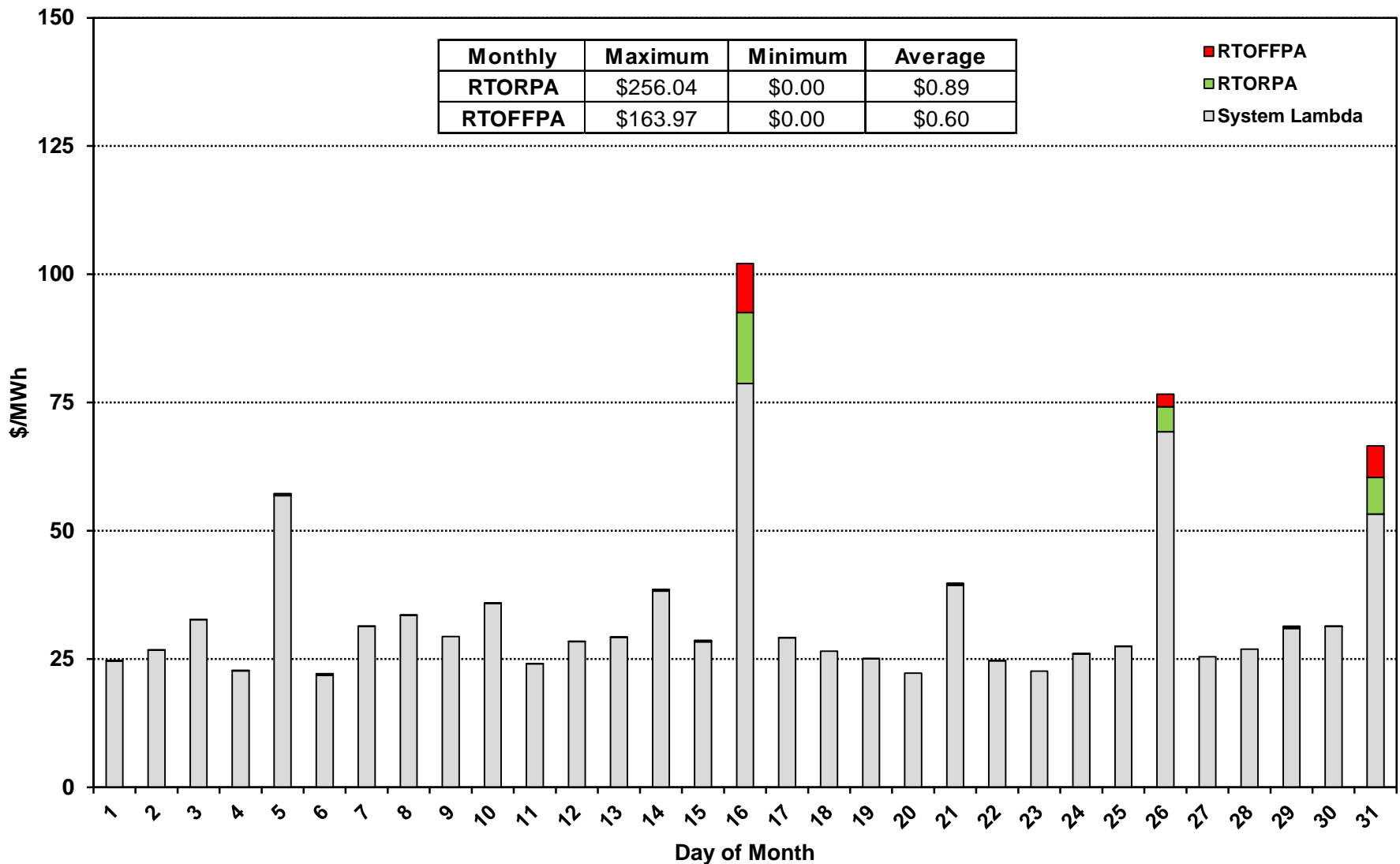
Non-Spinning Reserve Service Deployment – May 2018

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
5/1/2018 5:46:14 PM	5/2/2018 8:00:00 AM	14.2 Hours	85.7 MW	Thermal congestion
5/2/2018 9:41:12 AM	5/2/2018 10:00:55 PM	12.3 Hours	66 MW	Thermal congestion
5/3/2018 1:33:25 AM	5/3/2018 4:01:34 PM	14.5 Hours	14.2 MW	Voltage support

CRR Price Convergence – May 2018



Daily Average System Lambda and ORDC Price Adders – May 2018



ERS Procurement for February 2018 – May 2018

	TP1	TP2	TP3	TP4	TP5	TP6
Non Weather-Sensitive ERS-10 MW	186.590	197.059	193.848	189.941	185.253	172.191
Non Weather-Sensitive ERS-30 MW	654.589	705.649	690.570	682.154	659.905	589.511
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	841.179	902.708	884.418	872.095	845.158	761.702
Clearing Price	\$20.72	\$11.95	\$2.00	\$20.26	\$12.29	\$2.38

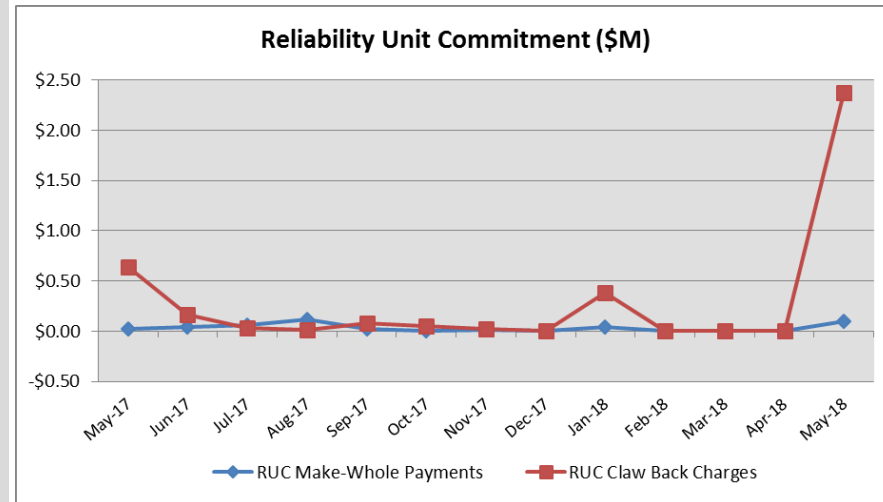
Time Period

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 2018

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.10)
RUC Clawback Charges	\$2.37
RUC Commitment Settlement	\$2.27
RUC Capacity Short Charges	\$0.10
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.10
RUC Decommitment Payments	(\$0.01)
Total RUC Allocation to Load	(\$2.36)



In May 2018, there was a credit of \$2.36M allocated to load for RUC compared to:

- A credit of \$0.00M in April 2018
- A credit of \$0.64M in May 2017

Ancillary and Other Services – May 2018

Ancillary and Other Services	\$ in Millions
Regulation Up Service	\$3.54
Regulation Down Service	\$1.71
Responsive Reserve Service	\$27.76
Non-Spinning Reserve Service	\$14.46
Black Start Service	\$0.62
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges Allocated to Load	\$48.08

In May 2018, Ancillary and Other Services was a charge of \$48.08M, compared to:

- A charge of \$31.03M in April 2018
- A charge of \$24.60M in May 2017

Real-Time Ancillary Service Imbalance (ORDC) – May 2018

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance	(\$270)
Real-Time Reliability Deployment AS Imbalance	(\$3,464)
Total RTASI Amount Allocated to Load	\$3,734

In May 2018, Real-Time Ancillary Service Imbalance was a charge to load of \$3,734K, compared to:

- A charge of \$79K in April 2018
- A charge of \$688K in May 2017

Energy Settlement – May 2018

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$804.98
Point to Point Obligation Purchases	\$171.00
Energy Sales	(\$749.81)
Day-Ahead Congestion Rent	\$226.18
Day-Ahead Market Make-Whole Payments	(\$0.08)

Day-Ahead Market energy settlement activity increased from last month and increased from May 2017.

Real-Time Market energy settlement activity increased from last month and increased from May 2017.

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$504.98)
Energy Imbalance at a Load Zone	\$1,054.53
Energy Imbalance at a Hub	(\$354.60)
Net Real-Time Energy Imbalance	\$194.94
Real Time Congestion from Self Schedules	\$0.40
Block Load Transfers and DC Ties	(\$9.52)
Total Impact to Revenue Neutrality	\$185.83
Load-Allocated Emergency Energy Payments	(\$0.31)
Load-Allocated Base Point Deviation Charges	\$0.38

Congestion Revenue Rights (CRR) – May 2018

	\$ in Millions
Annual Auction	(\$36.87)
Monthly Auction	(\$9.66)
Total Auction Revenue	(\$46.53)
Day-Ahead CRR Settlements	(\$201.22)
Day-Ahead CRR Short-Charges	\$0.68
Day-Ahead CRR Short-Charges Refunded	(\$0.68)
Day-Ahead CRR Short-Charges Net	\$0.00
Total CRR Funding	(\$201.22)
Day-Ahead Point-to-Point Obligations	\$171.00
Real-Time Point-to-Point Obligations	(\$204.22)
Net Point-to-Point Obligations	(\$33.22)

Congestion Revenue Rights settlement payments were fully funded and excess funds were paid to load.

Point to Point Obligations settled with a net credit of \$33.22M compared to a net credit of \$3.04M last month.

CRR Balancing Account Fund – May 2018

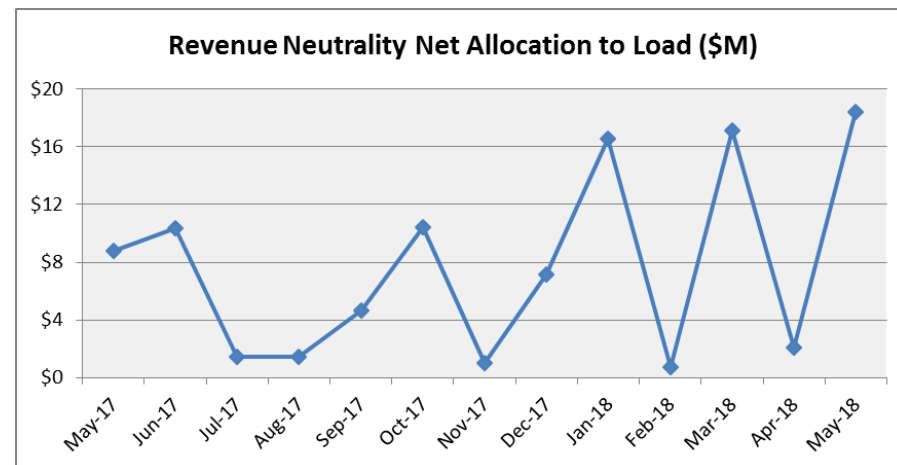
CRR Balancing Account	\$ in Millions
Monthly Day-Ahead Congestion Rent	\$226.18
Monthly Day-Ahead CRR Settlements	(\$201.22)
Monthly Day-Ahead CRR Short -Charges	\$0.68
CRR Balancing Account Credit Total	\$25.64
Beginning Fund Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$25.64
Day-Ahead CRR Short-Charges Refunded	(\$0.68)
CRR PTP Option Award Charges	\$0.05
Load-Allocated CRR Amount	(\$25.01)
Total Fund Amount	\$10.00

Revenue Neutrality – May 2018

Revenue Neutrality	\$ in Millions
Real-Time Energy Imbalance	\$194.94
Real-Time Point to Point Obligation	(\$204.22)
Real-Time Congestion from Self-Schedules	\$0.40
DC Tie & Block Load Transfer	(\$9.52)
Allocation to Load	\$18.40

In May 2018, the Revenue Neutrality charge to load was \$18.40M compared to:

- A charge of \$2.10M in April 2018
- A charge of \$8.76M in May 2017

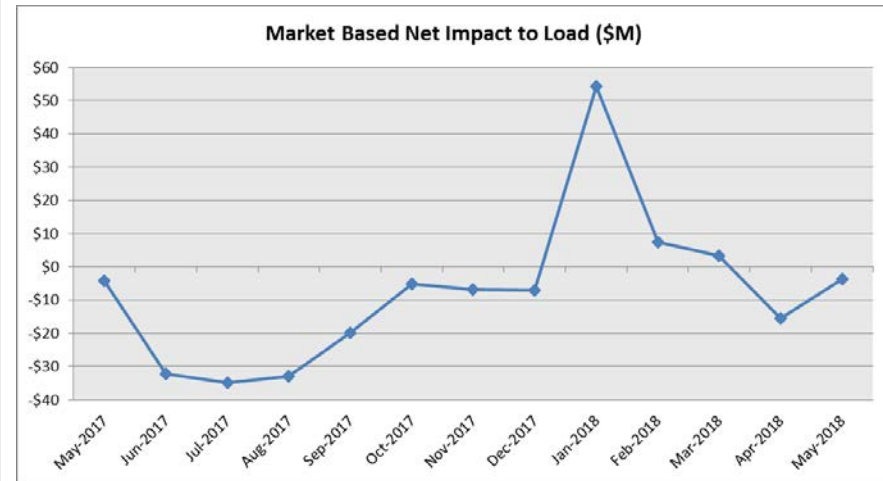


Net Allocation to Load – May 2018

Market-Based Allocation	\$ in Millions
Reliability Unit Commitment	(\$2.36)
Ancillary and Other Services	\$48.08
Real-Time Ancillary Service Imbalance	\$3.73
Emergency Energy	\$0.31
Base Point Deviation	(\$0.38)
CRR Auction Revenue	(\$46.53)
CRR Balancing Account	(\$25.01)
Real-Time Revenue Neutrality	\$18.40
Reliability Must Run	\$0.00
Monthly Block Load Transfer	\$0.00
Total	(\$3.76)
Fee Allocation	
ERCOT Administrative Fee	\$18.82
Net Allocated to Load	\$15.07

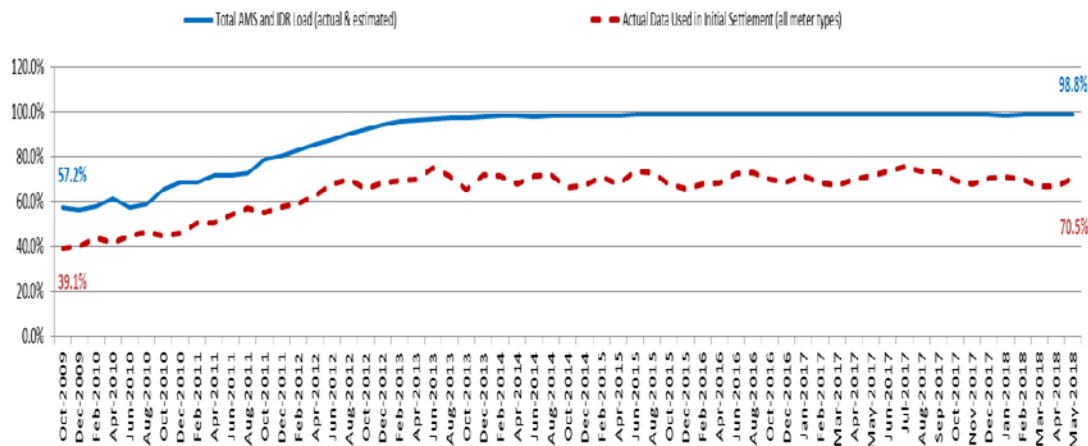
In May 2018, the Net Allocation to load was a charge of \$15.07M compared to:

- A credit of \$1.07M in April 2018
- A charge of \$12.09M in May 2017



Advanced Meter Settlement Impacts – May 2018

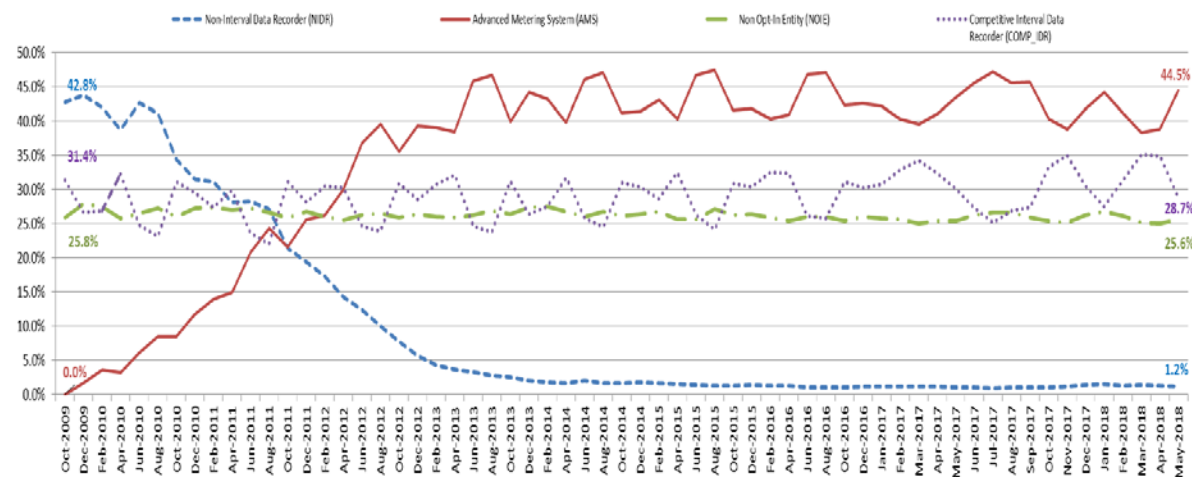
Percent Actual/Percent Interval Data Recorder (IDR)



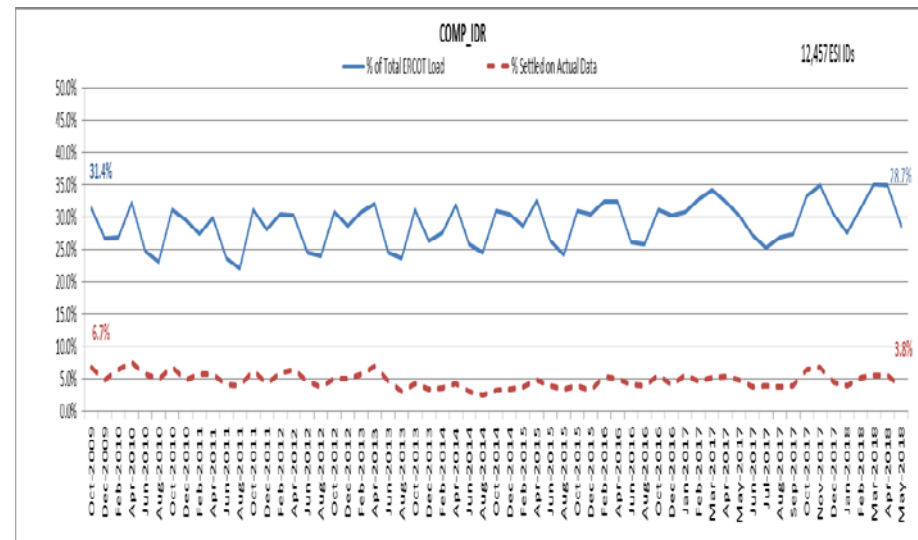
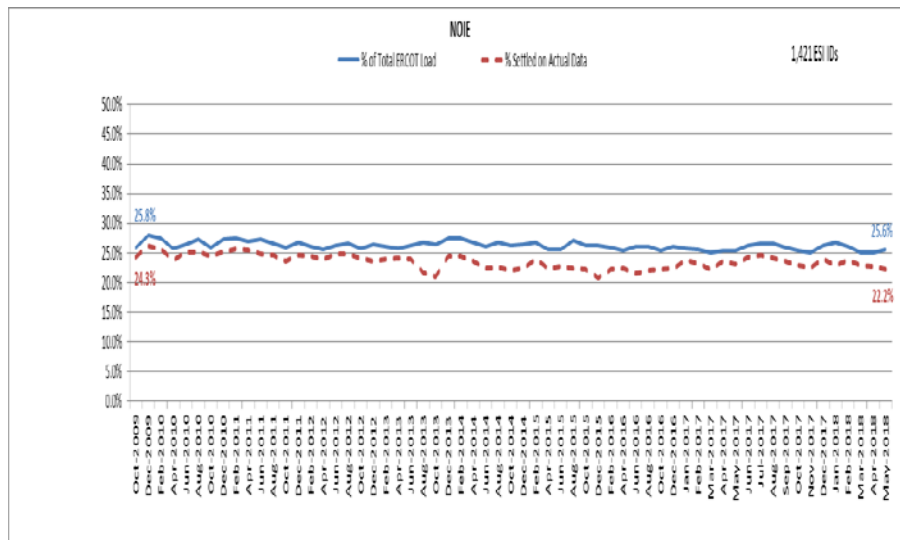
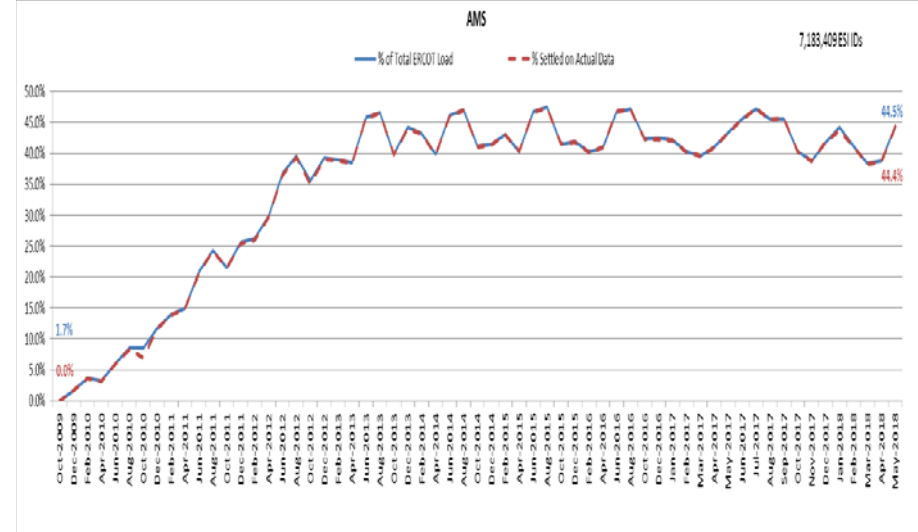
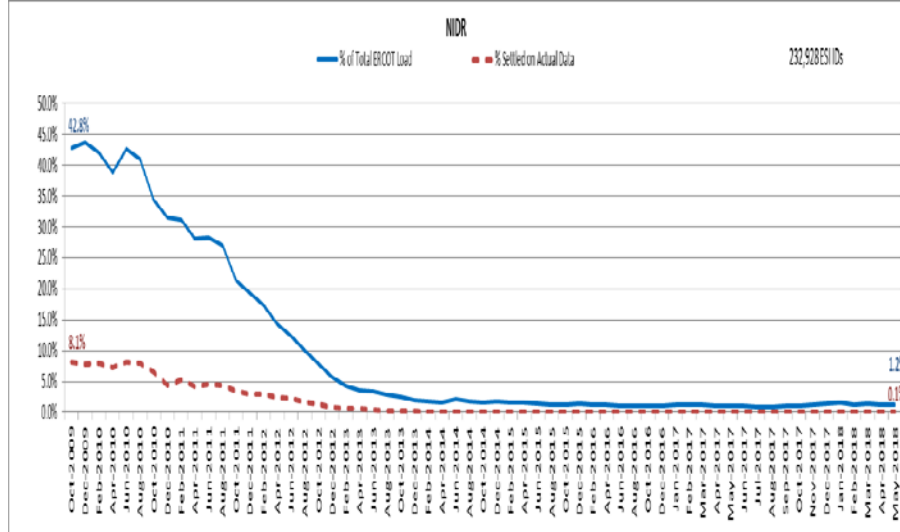
May 2018: At month end, settling 7.1M ESIIDs using Advanced Meter data.

May 2018: 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 2018

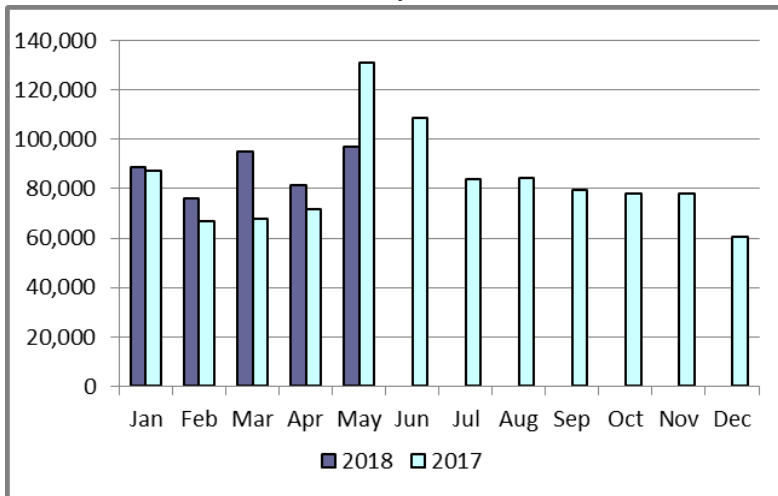


Retail Transaction Volumes – Summary – May 2018

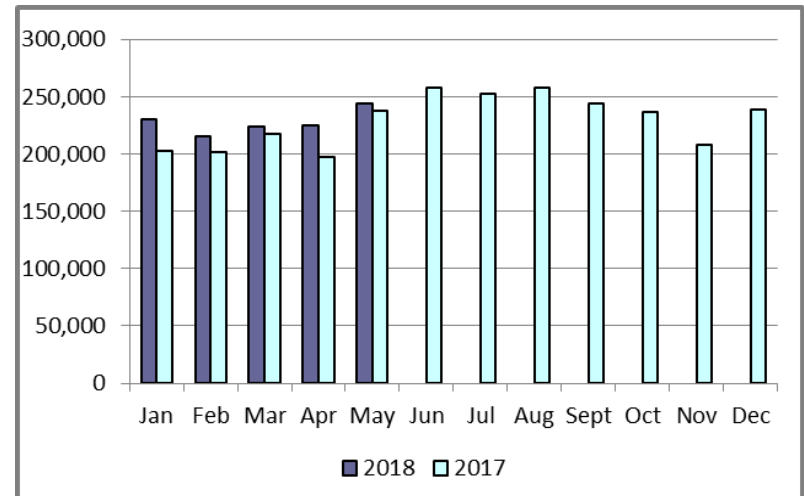
	Year-To-Date		Transactions Received	
Transaction Type	May 2018	May 2017	May 2018	May 2017
Switches	438,330	424,457	96,828	130,828
Acquisition	0	0	0	0
Move - Ins	1,139,790	1,058,034	244,431	237,611
Move - Outs	558,899	542,124	124,403	127,218
Continuous Service Agreements (CSA)	293,644	183,744	99,016	52,139
Mass Transitions	9,721	0	9,721	0
Total	2,440,384	2,208,359	574,399	547,796

Retail Transaction Volumes – Summary – May 2018

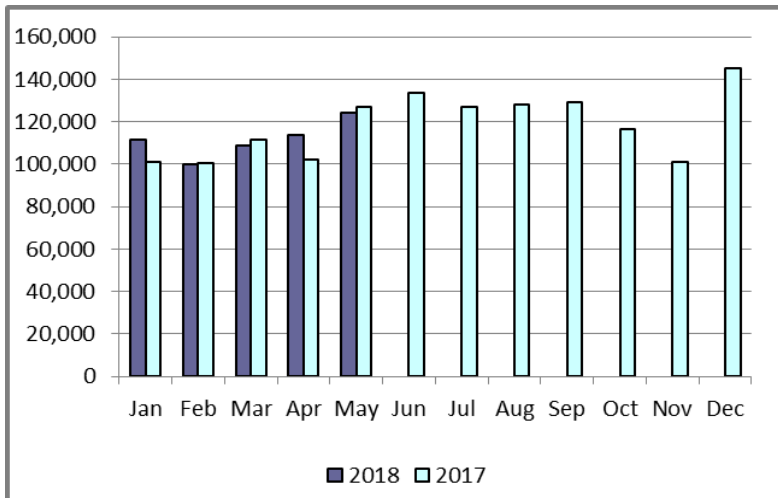
Switches/Acquisitions



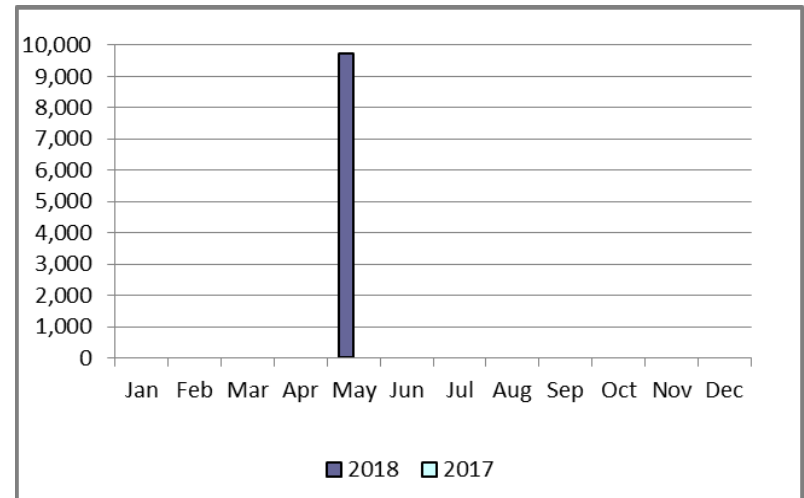
Move-Ins



Move-Outs

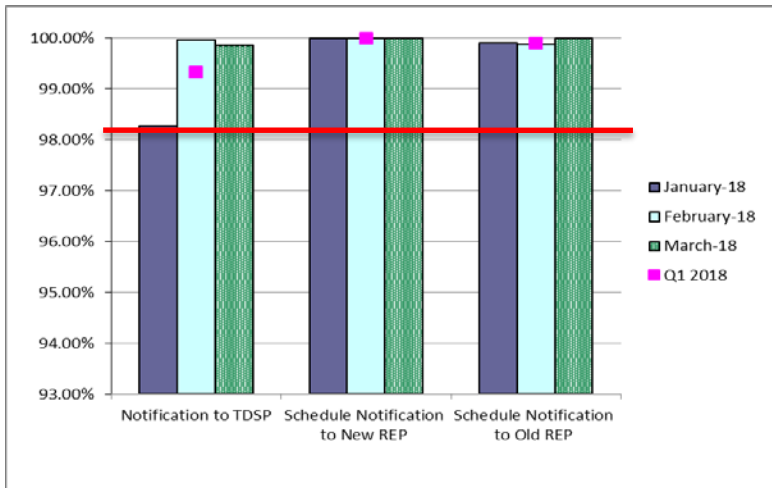


Mass Transition

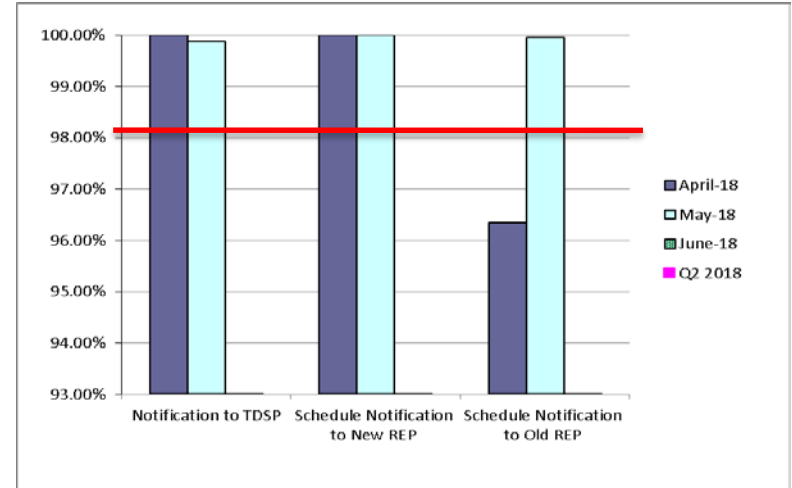


Retail Performance Measures – Switch – May 2018

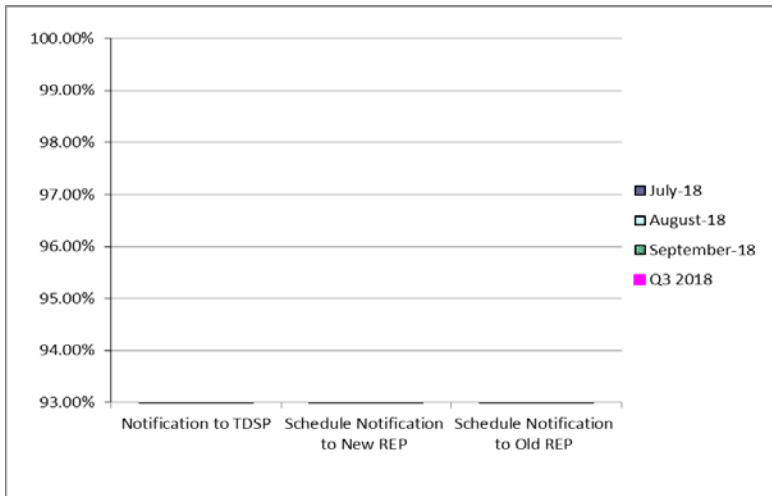
1st Quarter



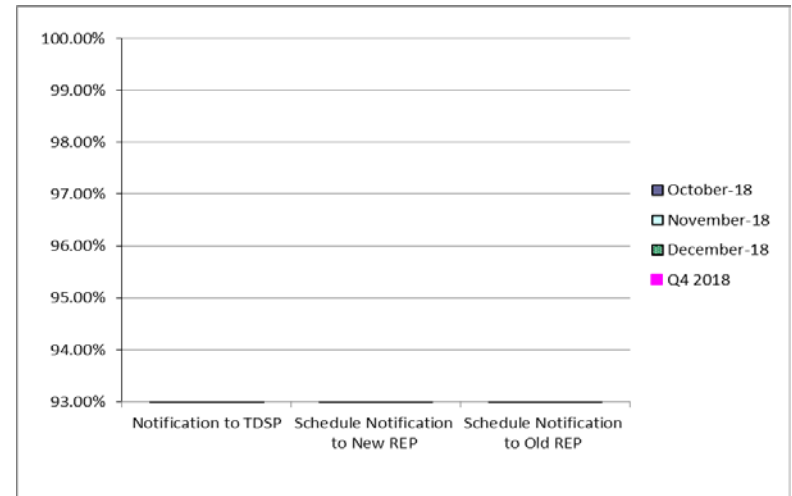
2nd Quarter



3rd Quarter

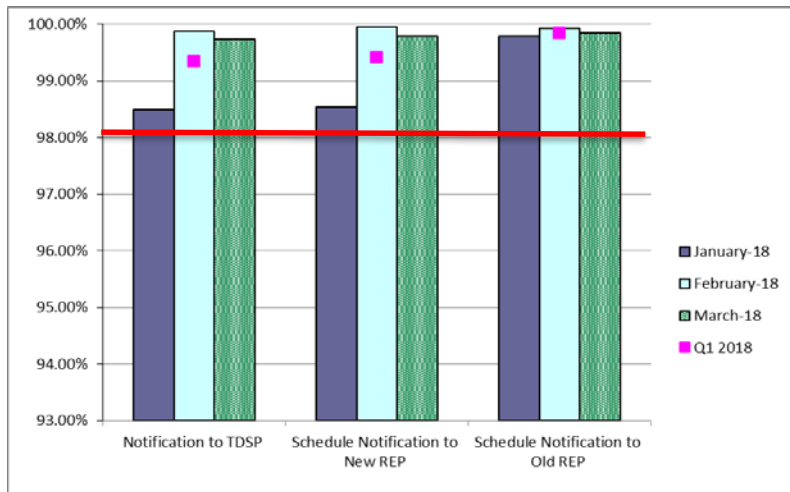


4th Quarter

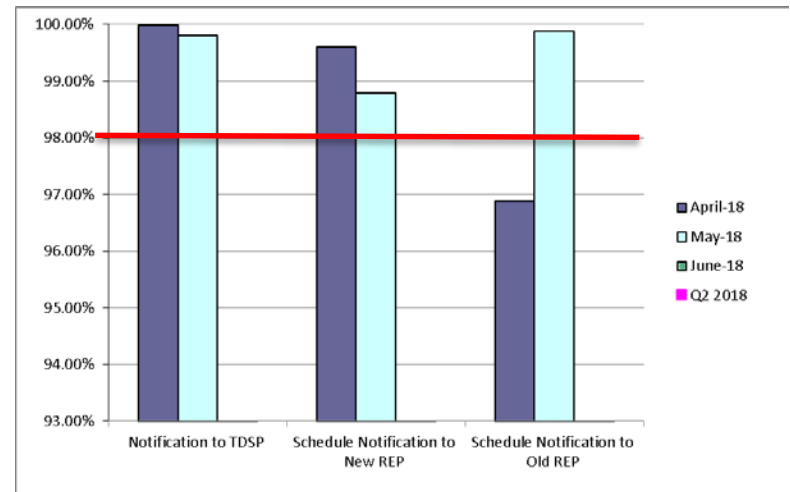


Retail Performance Measures – Same Day Move-In – May 2018

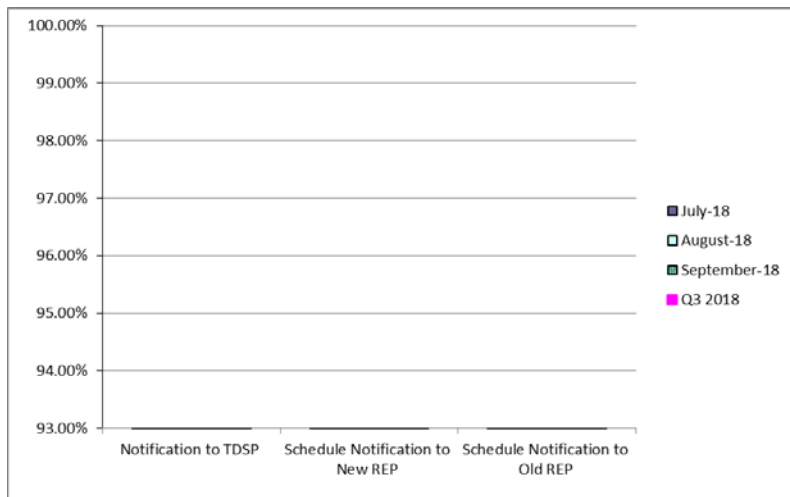
1st Quarter



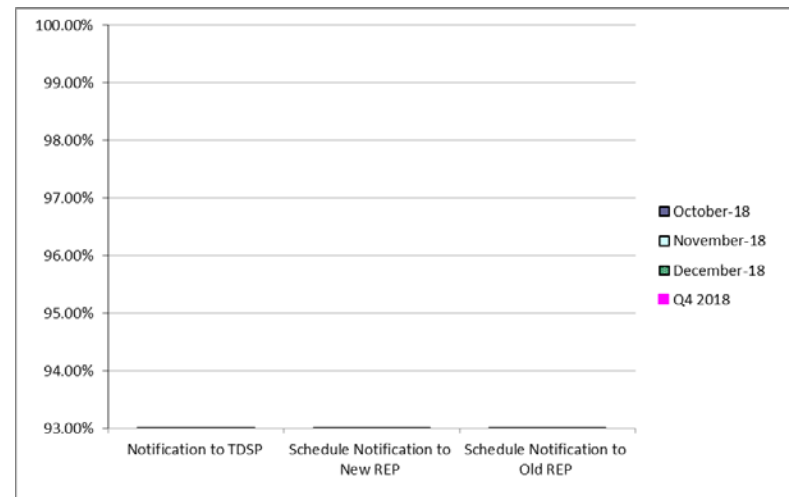
2nd Quarter



3rd Quarter

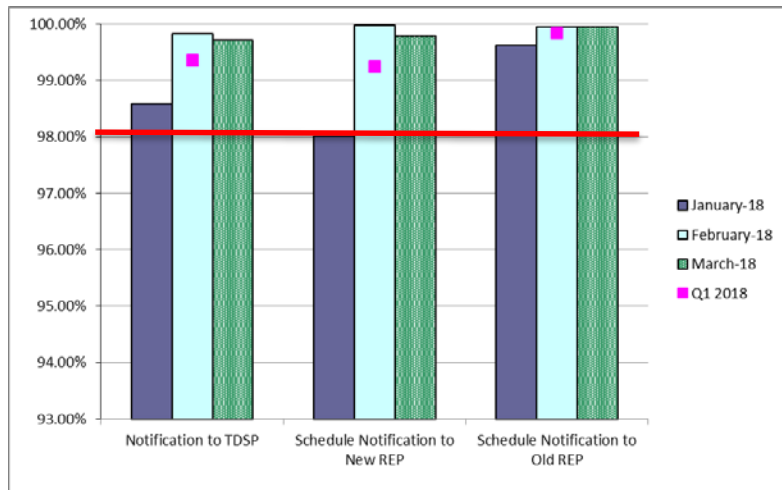


4th Quarter

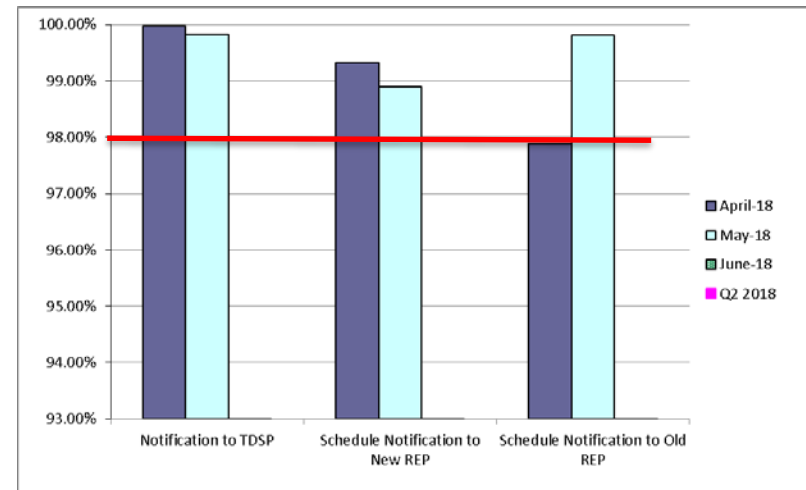


Retail Performance Measures – Standard Move-In – May 2018

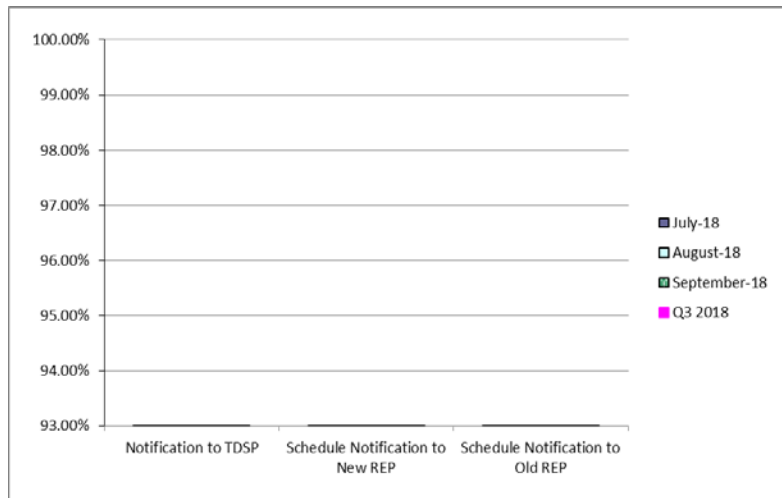
1st Quarter



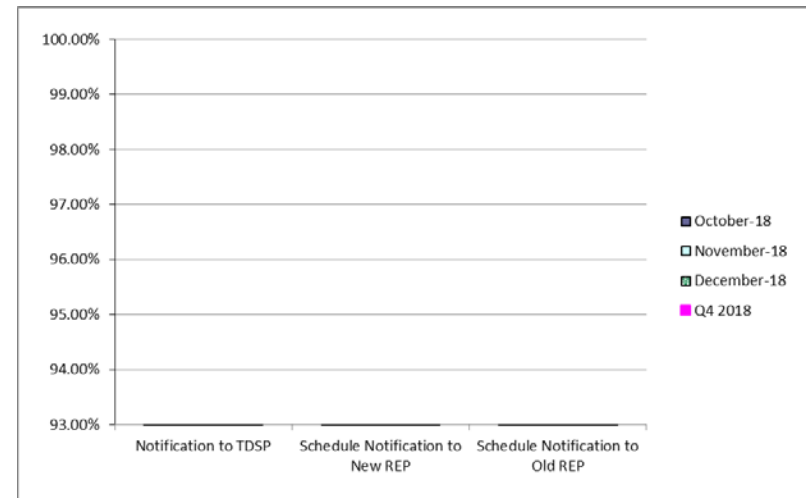
2nd Quarter



3rd Quarter



4th Quarter



Projects Report

ERCOT Portfolio Stoplight Report – May 2018

Impact Metric Tolerances		2018 Project Funding	\$20,000,000	2018 Portfolio Spending Estimate
<p>Unfavorable variances are represented as negative numbers within the report.</p> <p>- Green = No more than 4.9% unfavorable variance</p> <p>- Yellow = Unfavorable variance between 4.9% and 9.9%</p> <p>- Red = Unfavorable variance more than 9.9%</p>		Projects In Flight/On Hold (Count = 99)		\$ 22,146,503
		Projects Not Yet Started (Count = 14)		\$ 1,008,777
		Projects Completed (Count = 30)		\$ 269,038
		Spending Reductions Required to Maintain Capital Budget		\$ (3,424,318)
		TOTAL		\$ 20,000,000
Project Number	Projects in Initiation Phase (Count = 3)			
287-01	Security Constrained Unit Commitment (SCUC)			
286-01	Java Platform Assessment			
134-02	Privileged Account Management (PAM) Phase 2			

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

ERCOT Portfolio Stoplight Report – May 2018

Project Number	Projects in Planning Phase (Count = 10)	Phase Start	Baseline Phase Finish	Approved Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
183-01	CMM-FT GUI Integration	12/16/2015	8/17/2016	TBD	TBD	TBD		0%	NA	See 2015 CMM NPRRs
228-01	Enterprise Database Upgrade	4/25/2018	8/8/2018	8/8/2018	TBD	8/8/2018		0%		27%
242-01	Portfolio Reporting Assessment	11/8/2017	12/19/2018	12/19/2018	TBD	12/19/2018		0%		-3%
245-01	2017 EPS Metering Enhancements	12/13/2017	5/30/2018	6/27/2018	TBD	6/27/2018		0%		34%
260-01	Information Governance Assessment	10/18/2017	5/30/2018	9/19/2018	TBD	9/19/2018		0%		23%
279-01	Cyber Security Project #24	4/11/2018	6/27/2018	6/27/2018	TBD	6/27/2018		0%		0%
NPRR484	Revisions to Congestion Revenue Rights Credit Calculations and Payments - Phase 1b / 2	12/16/2015	8/17/2016	TBD	TBD	TBD		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	TBD	TBD		0%	NA	See 2015 CMM NPRRs
NPRR843	Short-Term System Adequacy and AS Offer Disclosure Reports Additions	6/6/2018	6/27/2018	6/27/2018	TBD	6/27/2018		0%		-2%
NPRR864	RUC Modifications to Consider Market-Based Solutions	5/16/2018	6/20/2018	6/20/2018	TBD	6/20/2018		0%		-1%
Project Number	Projects in Execution Phase (Count = 37)	Phase Start	Baseline Go-Live Date	Approved Go-Live Date	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
170-01	Enterprise Content Alignment Program	8/26/2015	11/15/2017	8/31/2018	8/31/2018	8/31/2018		0%		0%
170-06	ECAP - ECMS Implementation Phase 1	4/25/2018	11/30/2018	11/30/2018	11/30/2018	11/30/2018		0%		9%
173-02	ERCOT Flight Certification Website	11/15/2017	2/28/2019	2/28/2019	2/28/2019	5/31/2019		0%		1%
181-01	CRR Framework Upgrade	10/26/2016	10/2/2017	1/22/2018	TBD	TBD		0%		1%
183-01	CMM Tech Refresh	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
193-01	PMU Tool Evaluation and Implementation	12/13/2017	8/9/2018	8/9/2018	4/5/2019	5/1/2019	2	-100%		-3%
196-01	GINR Project Status Application Replacement	12/21/2016	9/14/2017	8/30/2018	8/30/2018	9/5/2018		0%	2	-10%
198-02	Reactive Power Coordination PoC	9/6/2017	6/16/2018	8/15/2018	8/15/2018	8/15/2018		0%		68%
209-02	Weather Imaging and Line Observation (WILO)	5/30/2018	2/1/2019	2/1/2019	2/1/2019	2/27/2019		0%		8%
210-01	REC Technology Refresh	8/30/2017	3/18/2018	8/9/2018	8/9/2018	9/12/2018		0%		4%
229-01	IT Change and Configuration Management Phase 2	8/2/2017	6/19/2018	12/11/2018	12/11/2018	3/25/2019		0%		0%
239-01	Identity and Access Management	5/9/2018	3/13/2019	3/13/2019	3/13/2019	3/13/2019		0%		-1%
241-01	AREA - Generation	10/11/2017	3/30/2018	8/9/2018	8/9/2018	9/5/2018		0%		-4%
244-01	Corporate Wireless	11/29/2017	3/28/2018	12/5/2018	12/5/2018	1/9/2019		0%		20%
246-01	ITest Data Refresh	12/13/2017	11/9/2018	11/9/2018	11/9/2018	1/2/2019		0%		4%
249-01	Secondary Wind Forecasting Service	8/30/2017	2/28/2018	8/9/2018	8/9/2018	9/5/2018		0%	2	-9%
253-01	CIP Recovery Plan Project - Planning Phase 1	1/31/2018	8/29/2018	8/29/2018	8/29/2018	8/29/2018		0%		-2%
257-01	Security Constrained Optimal Powerflow in Study Network Analysis	12/6/2017	10/25/2018	10/25/2018	10/25/2018	12/8/2018		0%		12%

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Project Number	Projects in Execution Phase (Count = 37)	Phase Start	Baseline Go-Live Date	Approved Go-Live Date	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
258-01	WD Kainos SMART Automation Testing Tool	4/11/2018	6/4/2018	6/4/2018	6/6/2018	6/6/2018		-3%		37%
259-01	DC SCADA and Metering Upgrade	10/25/2017	1/17/2018	7/25/2018	7/25/2018	8/29/2018		0%		72%
261-01	Generic Transmission Constraint Calculation	3/7/2018	12/13/2018	12/13/2018	12/13/2018	1/23/2019		0%		4%
263-01	Market Simulator	4/11/2018	12/13/2018	12/13/2018	12/13/2018	1/30/2019		0%		3%
265-01	Real-Time Assessment Continuity	1/31/2018	12/13/2018	12/13/2018	12/13/2018	1/30/2019		0%		14%
266-01	Remote Email Access Enhancement	12/13/2017	3/7/2018	6/6/2018	6/6/2018	6/20/2018		0%		1%
280-01	Quest Software Portfolio Transition	4/4/2018	6/27/2018	6/27/2018	6/27/2018	6/27/2018		0%		71%
282-01	Synchronous Condenser Outage Modeling	6/6/2018	10/25/2018	10/25/2018	10/25/2018	12/5/2018		0%		-3%
Various	2015 CMM NPRRs									2%
NPRR519	Exemption of ERS-Only QSEs from Collateral and Capitalization Requirements	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%		See 2015 CMM NPRRs
NPRR562	Subsynchronous Resonance	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR620	Collateral Requirements for Counter-Parties with No Load or Generation	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR660	Remove CRR State Change Adder	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR741	Clarifications to TPE and EAL Credit Exposure Calculations	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR755	Data Agent-Only QSE Registration	3/15/2017	5/19/2018	12/11/2018	12/11/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR819	Modification of Non-Price Error Resettlement Thresholds and Resettlement Clean-Ups	5/9/2018	8/9/2018	8/9/2018	8/9/2018	9/5/2018		0%		17%
SCR777	Bilateral CRR Interface Enhancement	10/26/2016	10/2/2017	1/22/2018	TBD	TBD		0%	NA	See #181-01
SCR781	RARF Replacement	12/20/2017	4/25/2018	12/19/2018	12/19/2018	12/19/2018		0%		0%
SCR791	Correction of 60-day SCED GRD Disclosure Report	5/2/2018	8/9/2018	8/9/2018	8/9/2018	9/5/2018		0%		15%
Project Number	Expedited Projects in Execution (Count = 32)									

ERCOT Portfolio Stoplight Report – May 2018

Project Number	Projects in Stabilization (Count = 13)	Execution Phase Start	Baseline Go-Live Target	Approved Go-Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Schedule Health		Budget Health	
NPRR648	Remove References to Flowgate Rights	3/15/2017	5/19/2018	5/19/2018	2/6/2018	12/31/2018		23%	NA	See 2015 CMM NPRRs
NPRR683	Revision to Available Credit Limit Calculation	3/15/2017	5/19/2018	5/19/2018	2/6/2018	12/31/2018		23%	NA	See 2015 CMM NPRRs
NPRR743	Revision to MCE to Have a Floor For Load Exposure	3/15/2017	5/19/2018	5/19/2018	2/6/2018	12/31/2018		23%	NA	See 2015 CMM NPRRs
NPRR760	Calculation of Exposure Variables For Days With No Activity	3/15/2017	5/19/2018	5/19/2018	2/6/2018	12/31/2018		23%	NA	See 2015 CMM NPRRs
NPRR768	Revisions to Real-Time On-Line Reliability Deployment Price Adder Categories	3/7/2018	5/31/2018	5/31/2018	5/31/2018	6/27/2018		0%		24%
NPRR776	Voltage Set Point Communication	9/20/2017	3/19/2018	4/5/2018	4/5/2018	9/5/2018		0%		6%
NPRR800	Revisions to Credit Exposure Calculations to Use Electricity Futures Market Prices	3/15/2017	5/19/2018	5/19/2018	2/6/2018	12/31/2018		23%	NA	See 2015 CMM NPRRs
NPRR815	Revise the Limitation of Load Resources Providing Responsive Reserve (RRS) Service	3/21/2018	5/31/2018	5/31/2018	5/31/2018	6/27/2018		0%	2	-10%
OBDRR002	ORDC OBD Revisions for PUCT Project 47199	3/7/2018	5/31/2018	5/31/2018	5/31/2018	6/27/2018		0%		See NPRR768
209-01	Multi Station Breaker to Breaker One Lines	2/8/2017	3/9/2018	5/3/2018	5/3/2018	8/22/2018		0%		0%
230-01	SAS Technical Architecture Redesign	3/1/2017	12/13/2017	12/13/2017	12/13/2017	6/13/2018		0%		4%
238-01	Application Authentication Tech Refresh	9/6/2017	3/19/2018	4/9/2018	4/9/2018	9/5/2018		0%		18%
274-01	Average Mid-Term Load Forecast	3/7/2018	5/31/2018	5/31/2018	5/31/2018	6/27/2018		0%		43%
Project Number	Projects On Hold (Count = 4)	Forecast Start Date	Baseline Phase Finish	Approved Go-Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
NPRR749	Option Cost for Outstanding CRRs									
NPRR833	Modify PTP Obligation Bid Clearing Change									
SCR789	Update NMMS Topology Processor to PSSE 34 Capability									
269-01	Document Repository Redesign and Governance Implementation - Phase 1									
Project Number	Projects Completed (Count = 15)	Baseline Execution Phase Start	Baseline Go-Live Target	Approved Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Health		Budget Health	
185-01	Records Management and eDiscovery	12/15/2016	5/24/2017	8/29/2017	8/22/2017	12/13/2017		2%		0%
224-01	TelAlert Replacement	4/5/2017	6/27/2017	8/4/2017	8/4/2017	5/9/2018		0%		9%
234-01	Reporting Solution Resiliency (RSR)	4/5/2017	8/23/2017	11/27/2017	11/27/2017	1/10/2018		0%		8%
240-01	EDI Translator and Mapping Replacement Assessment	4/19/2017	9/27/2017	2/28/2018	TBD	3/7/2018		-2%		20%
254-01	Retail Windows Upgrade	10/11/2017	12/18/2017	12/18/2017	1/22/2018	2/7/2018	1	-51%		65%

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Project Number	Projects Completed (Count = 15)	Baseline Execution Phase Start	Baseline Go-Live Target	Approved Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Health	Budget Health
255-01	Settlements Architecture Enhancements	10/25/2017	1/11/2018	1/11/2018	1/19/2018	2/14/2018	1 -10%	53%
271-01	Issue Tracking and Resolution Tool Assessment	12/13/2017	4/25/2018	4/25/2018	TBD	5/2/2018	1 -5%	0%
272-01	Operator Training Simulator Black Start GE Effort	12/6/2017	4/25/2018	4/25/2018	4/27/2018	5/16/2018	-1%	19%
NPRR778	Modifications to Date Change and Cancellation Evaluation Window	7/19/2017	10/29/2017	12/11/2017	12/11/2017	1/31/2018	0%	23%
NPRR782	Settlement of Infeasible Ancillary Services Due to Transmission Constraints	5/24/2017	8/31/2017	11/2/2017	11/2/2017	1/10/2018	0%	20%
NPRR808	Three Year CRR Auction	8/23/2017	9/18/2017	9/18/2017	9/1/2017	1/31/2018	65%	68%
NPRR810	Applicability of RMR Incentive Factor on Reservation and Transportation Costs Associated with Firm Fuel Supplies	7/17/2017	11/12/2017	3/31/2018	3/31/2018	3/31/2018	0%	NA See #233-00
NPRR830	Revision of 4-Coincident Peak Methodology	12/13/2017	2/6/2018	2/6/2018	2/6/2018	3/7/2018	0%	85%
NPRR831	Inclusion of Private Use Networks in Load Zone Price Calculations	8/2/2017	11/2/2017	11/2/2017	11/2/2017	2/21/2018	0%	33%
SCR792	Enhance Communications of BAAL Exceedances	2/14/2018	4/5/2018	4/5/2018	4/5/2018	4/25/2018	0%	69%
Project Number	Expedited Projects Completed (Count = 15)							

Project Number	2018 Projects Not Yet Started (Count = 14)	Forecast Start Date
SCR795	Addition of Intra-Hour Wind Forecast to GTBD Calculation	Jun-2018
RRGRR015	Additional Guidance for Transformer and Station Data	Jul-2018
RRGRR016	Additional Guidance for Solar Data	Jul-2018
SCR793	SSR Related Telemetry for Transmission Service Provider (TSP) Operators	Aug-2018
SCR794	Update SCED Limit Calculation	Aug-2018
NPRR842	Study Area Load Information	Sep-2018
NPRR817	Create a Panhandle Hub	Oct-2018
NPRR821	Elimination of the CRR Deration Process	Oct-2018
NPRR858	Provide Complete Current Operating Plan (COP) Data	Oct-2018
NPRR865	Publish RTM Shift Factors for Hubs, Load Zones, and DC Ties	Oct-2018
TBD	Additional Branch Limit for Relays	Oct-2018
TBD	2018 OS Enhancements	Oct-2018
ECAP	ECAP - ECMS Implementation Phase 2	Oct-2018
TBD	Job Scheduler Update in CSI Framework	Oct-2018