



ERCOT Monthly Operational Overview (April 2018)

ERCOT Public
May 15, 2018

Grid Planning & Operations

Summary – April 2018

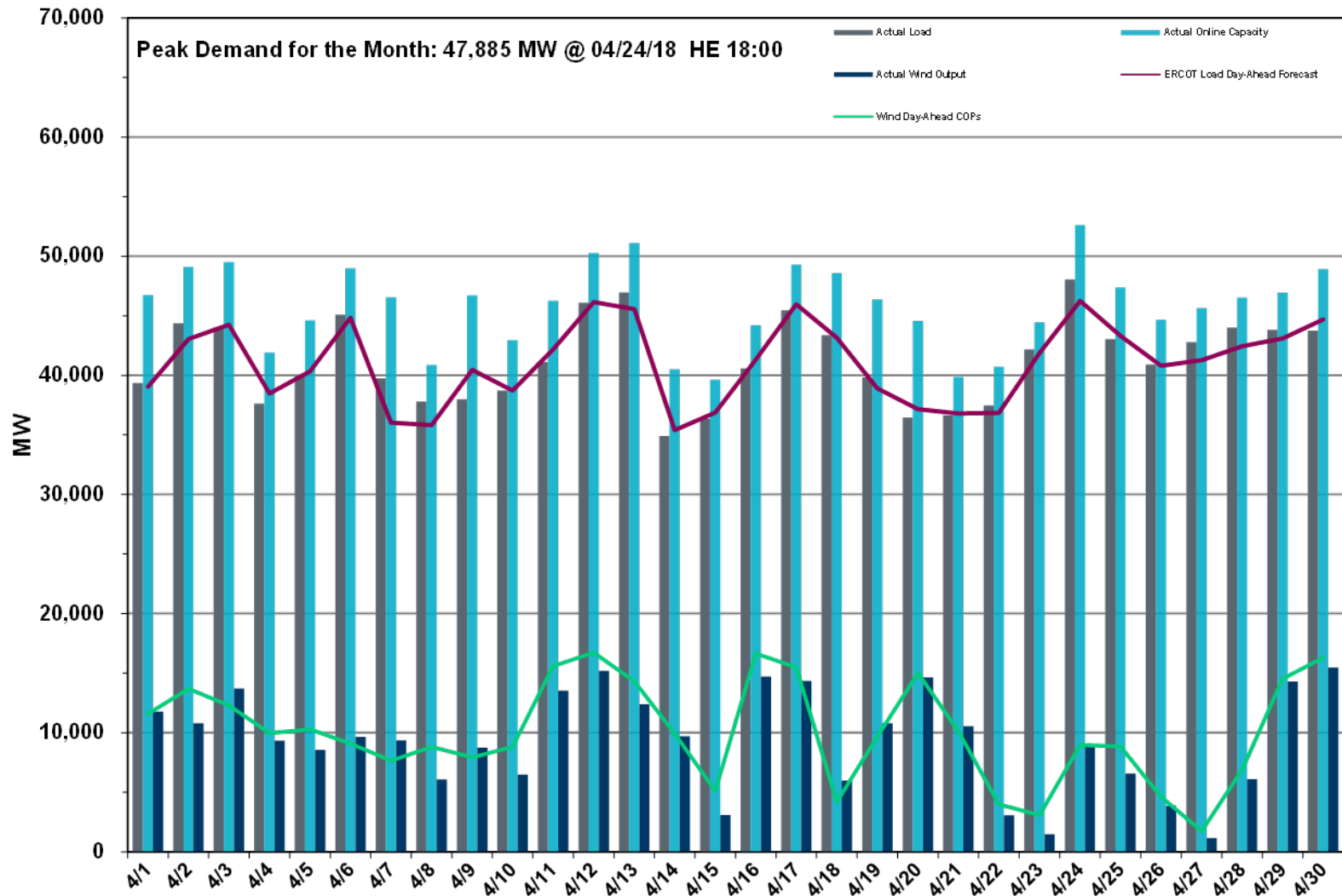
Operations

- The preliminary Settlements hourly peak demand of 47,885* MW on April 24 was higher than the day-ahead mid-term load forecast peak of 46,255 MW for the same operating hour.
 - The operational instantaneous peak demand was 48,359 MW (telemetry).
- Day-ahead load forecast error for April was 1.77%
- ERCOT issued 2 notifications:
 - One Watch issued for the Eagle Pass DC Tie due to a trip
 - One Watch issued for the Railroad DC Tie due to the Tie being de-rated to 150MW

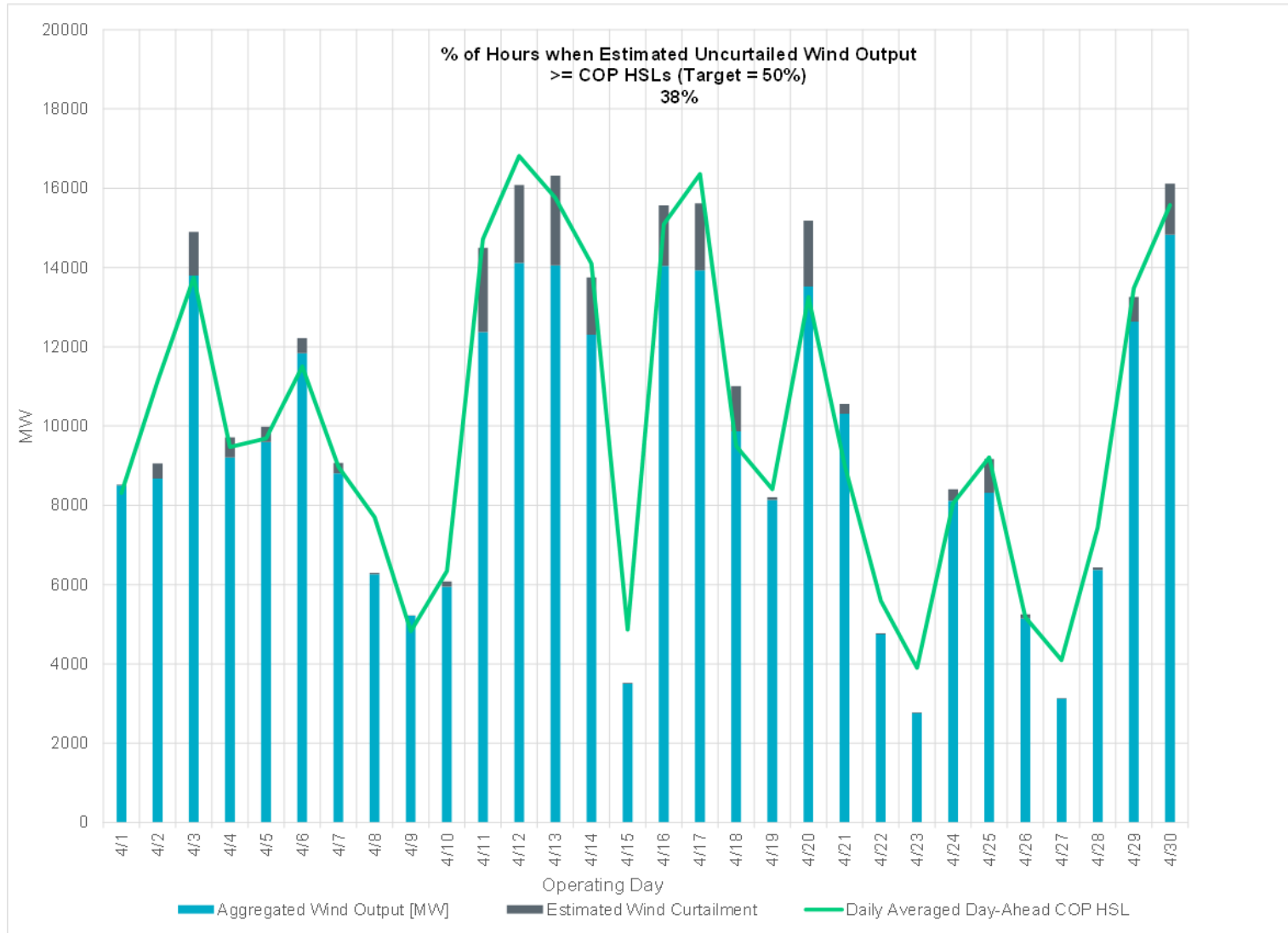
Planning Activities

- 349 active generation interconnection requests totaling 71,620 MW, including 33,427 MW of wind generation, as of April 30, 2018. Nine additional requests and an increase of 3,143 MW from March 31, 2018.
- 20,890 MW wind capacity in commercial operations as of May 1, 2018.

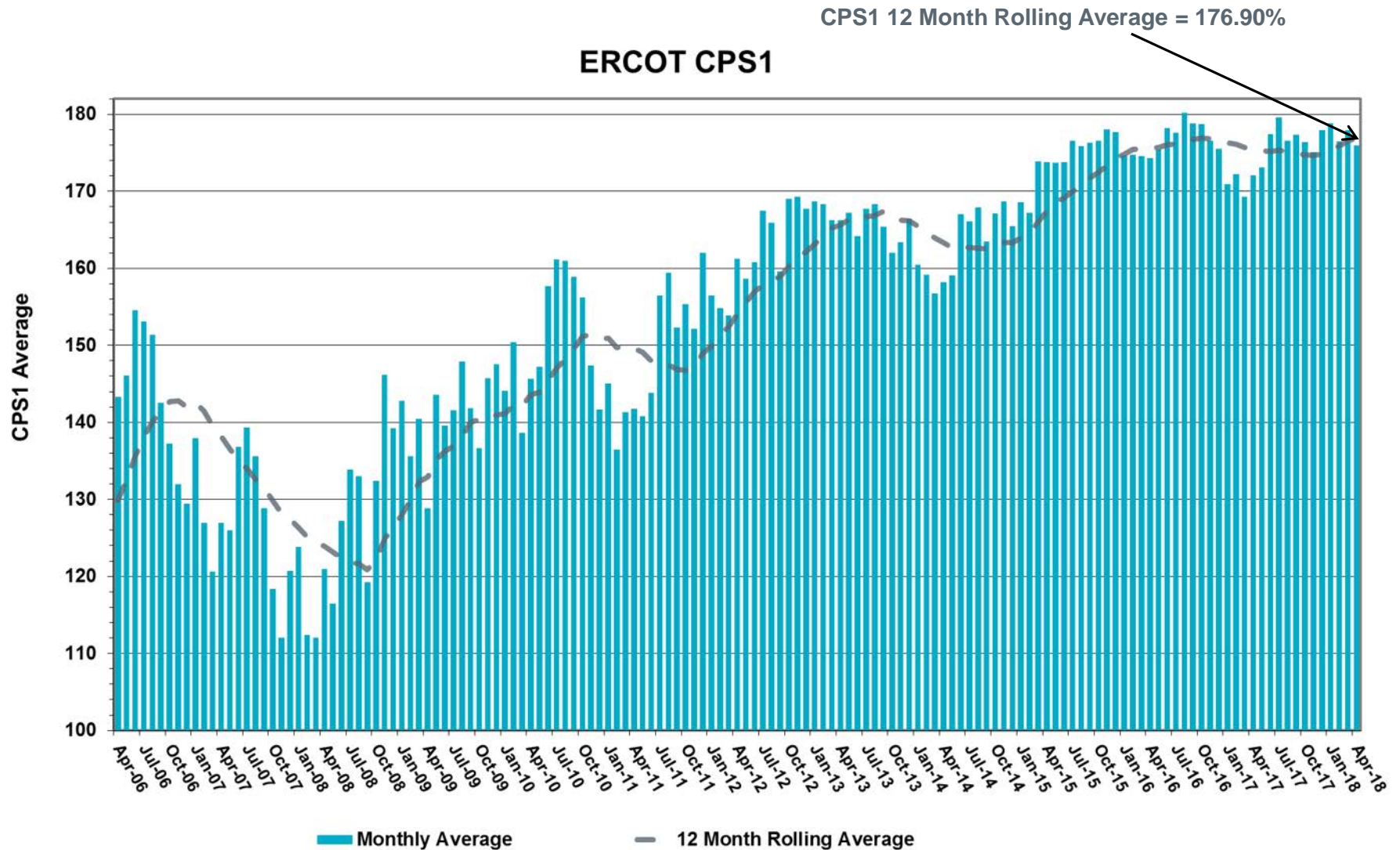
Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-Line Capacity at Peak – April 2018



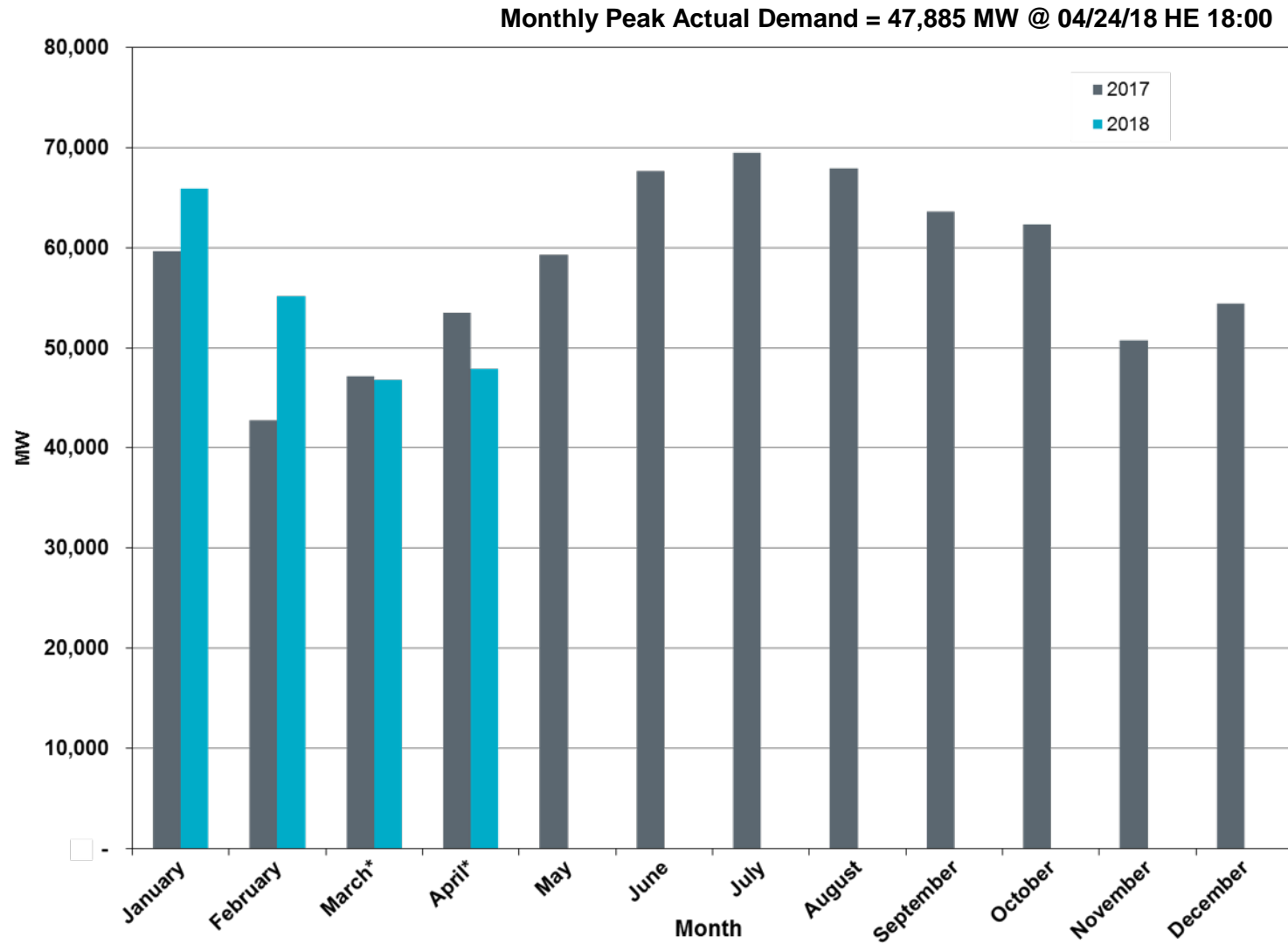
Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – April 2018



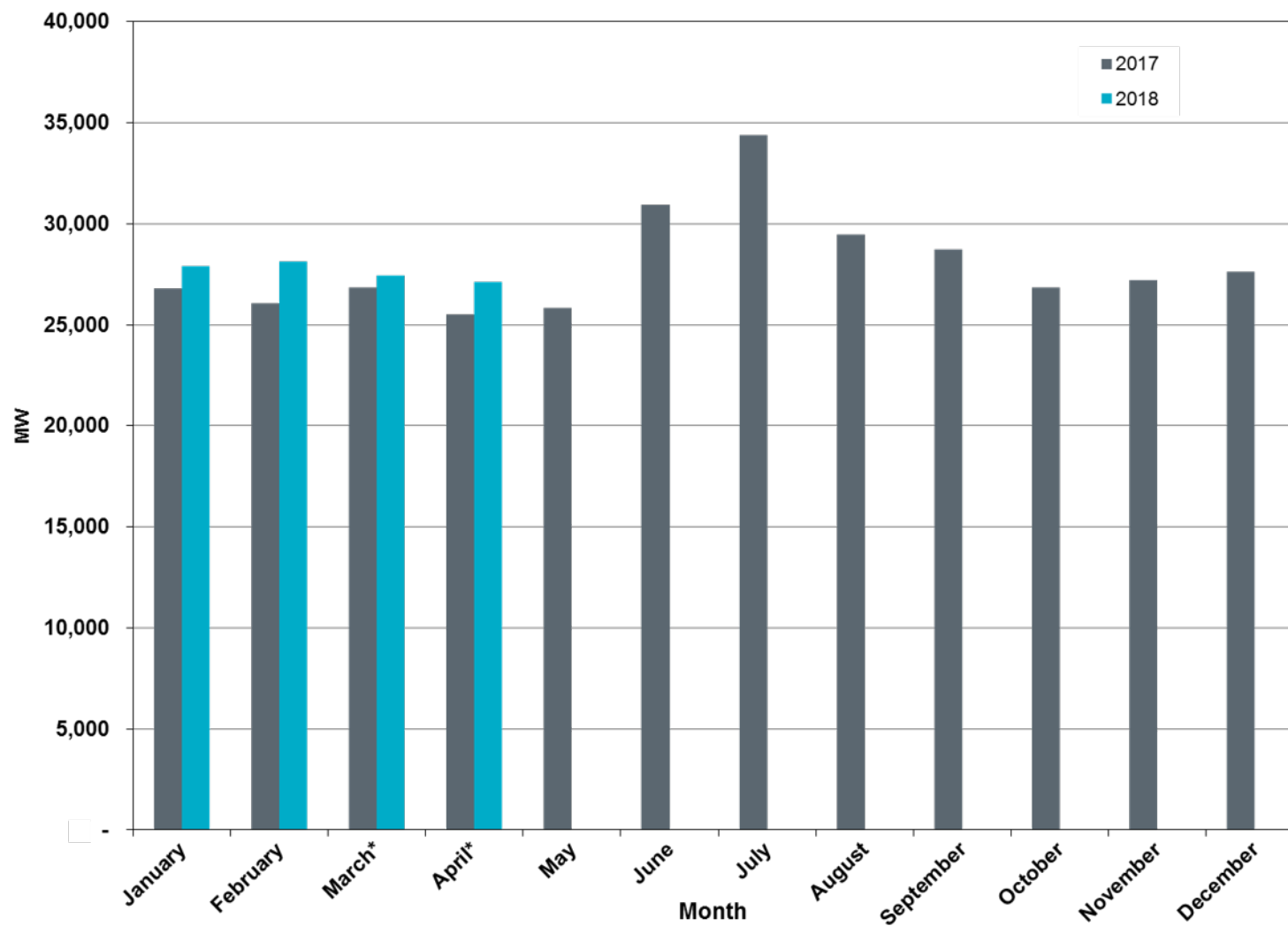
ERCOT's CPS1 Monthly Performance – April 2018



Monthly Peak Actual Demand – April 2018



Monthly Minimum Actual 15-Minute Demand – April 2018

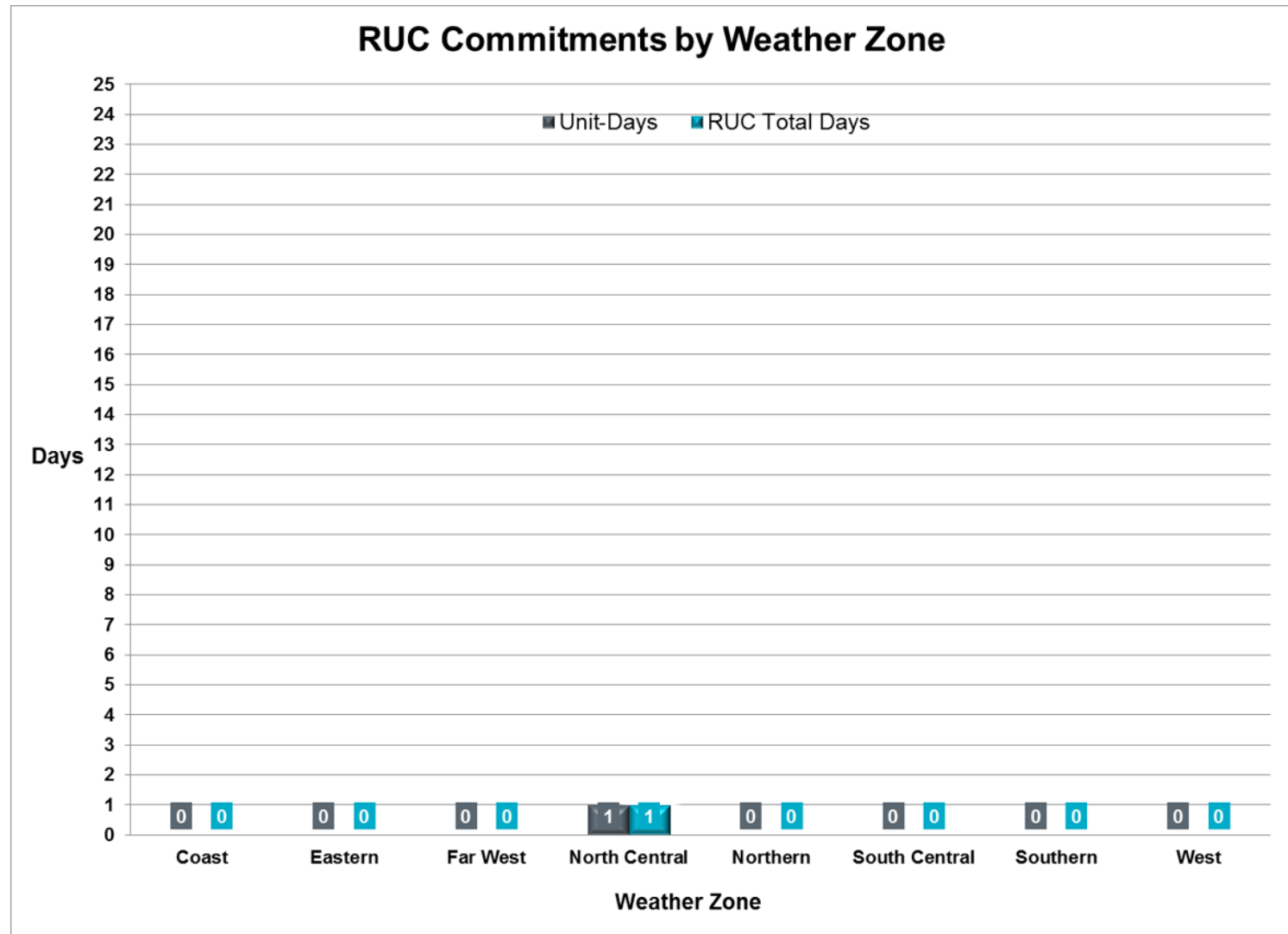


Day-Ahead Load Forecast Performance – April 2018

**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	April 2018 MAPE	
Average Annual MAPE	2.86	2.62	2.55	2.73	1.77	
Lowest Monthly MAPE	1.89	1.94	1.69	1.77	Lowest Daily MAPE	0.76 Apr 26
Highest Monthly MAPE	3.81	3.86	4.07	3.66	Highest Daily MAPE	6.13 Apr 7

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



Generic Transmission Constraints (GTCs) – April 2018

GTCs	Apr-17 Days GTCs	Feb-18 Days GTCs	Mar-18 Days GTCs	Apr-18 Days GTCs	Last 12 Months Total Days (May 17 – Apr 18)
North – Houston	1	0	2	1	9
Valley Import	0	0	1	0	14
Panhandle	28	27	29	25	272
Red Tap	0	0	0	0	0
North Edinburg – Lobo	-	0	0	0	1
Nelson Sharpe – Rio Hondo	-	13	16	12	63
East Texas	-	0	0	0	16

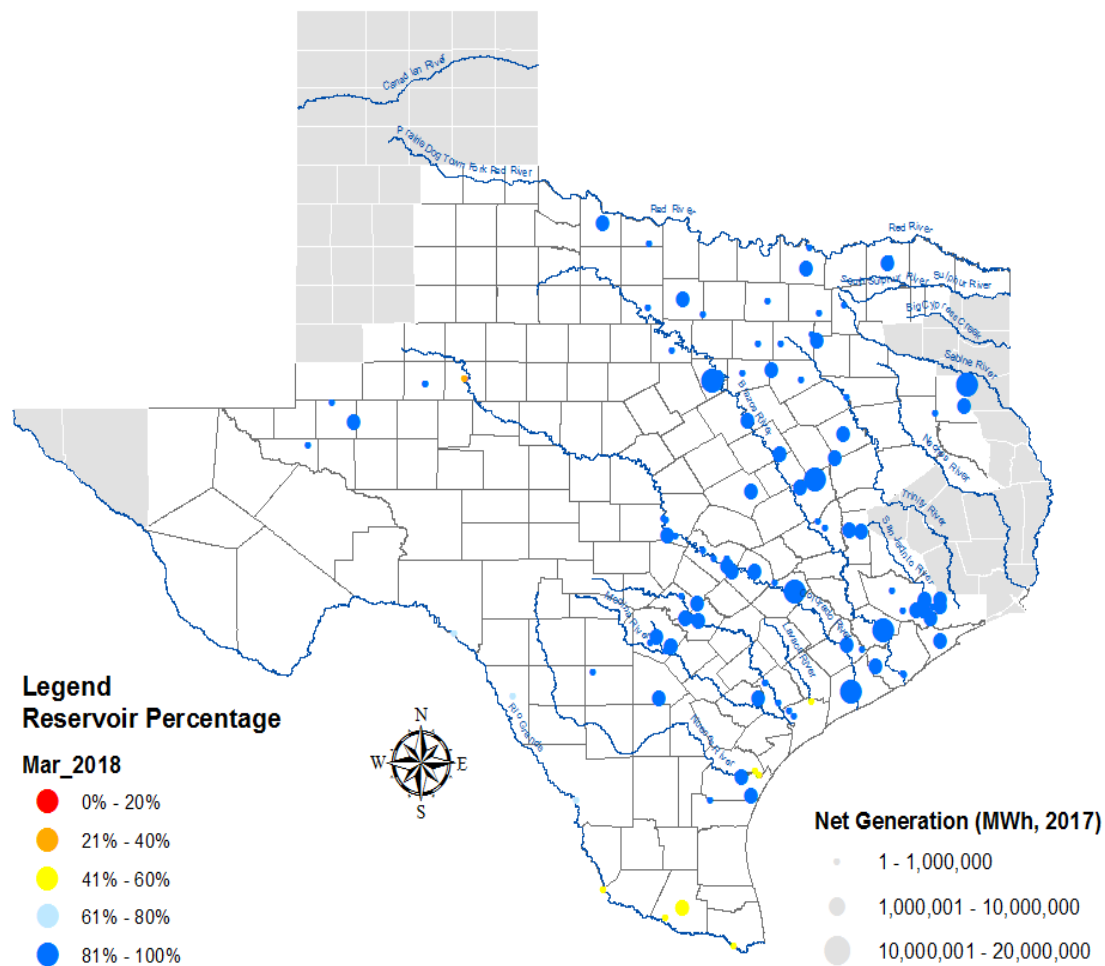
GTC: A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security 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 – April 2018

- One Watch issued for the Eagle Pass DC Tie due to a trip
 - Issued 4/12
- One Watch issued for the Railroad DC Tie due to the Tie being de-rated to 150MW
 - Issued 4/23

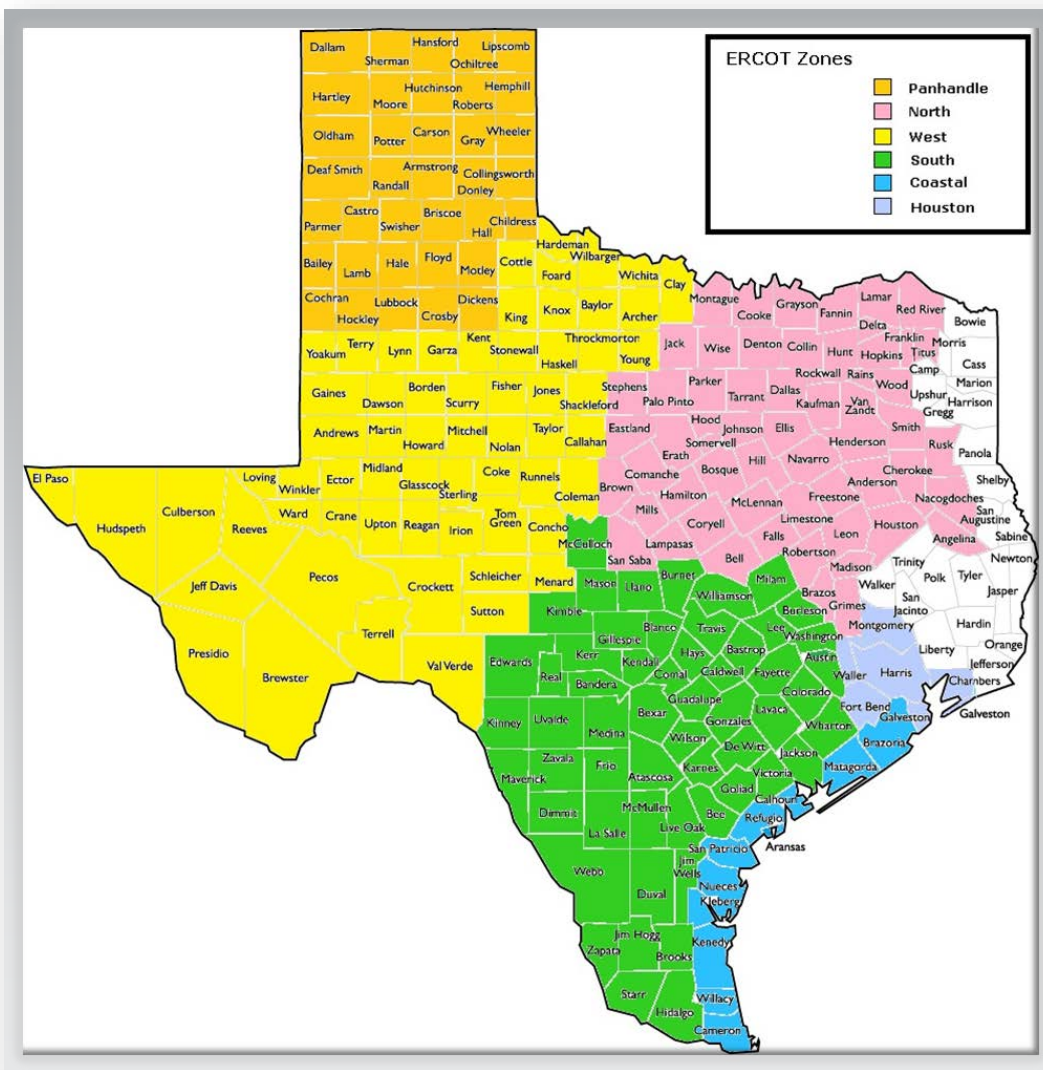
Lake Levels Update – May 1, 2018



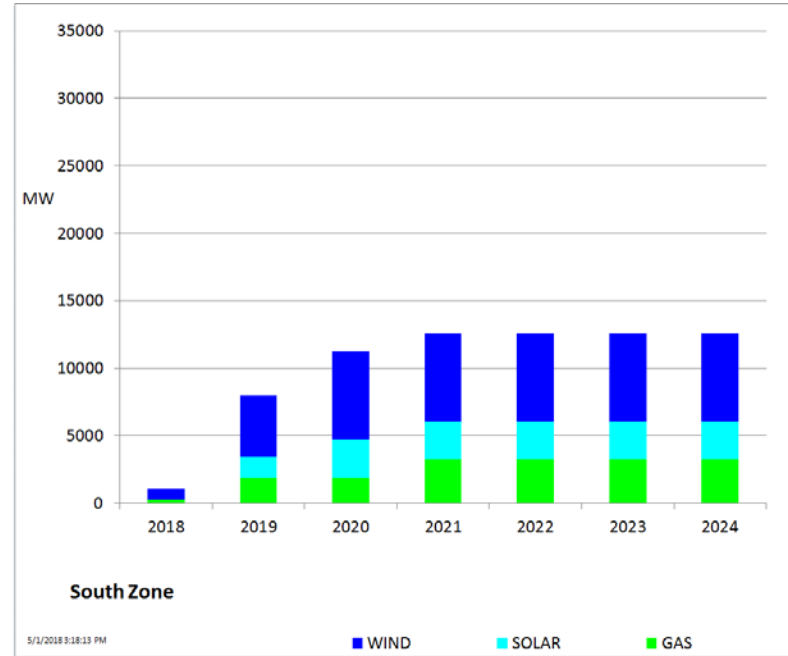
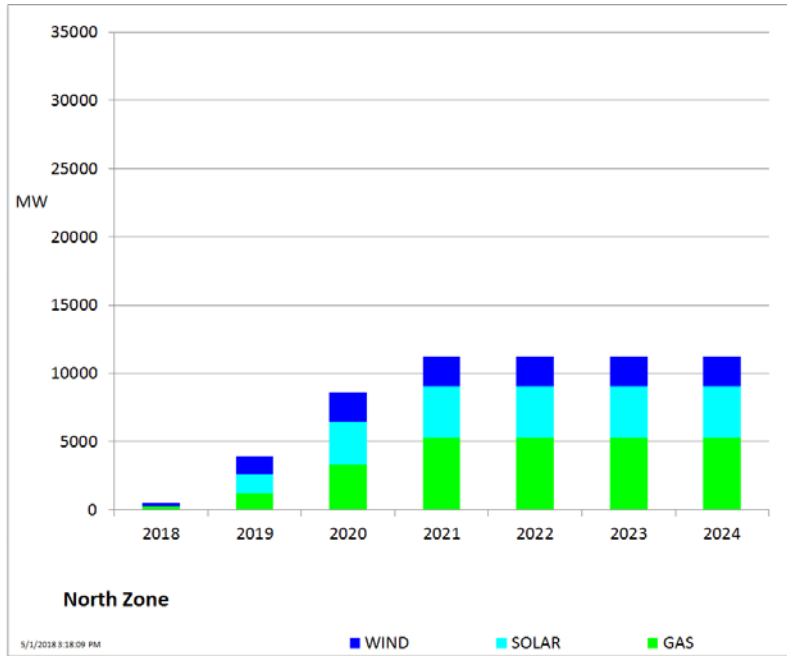
Planning Summary – April 2018

- ERCOT is currently tracking 349 active generation interconnection requests totaling 71,620 MW. This includes 33,427 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$906.5 million.
- Transmission Projects endorsed in 2018 total \$43 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).

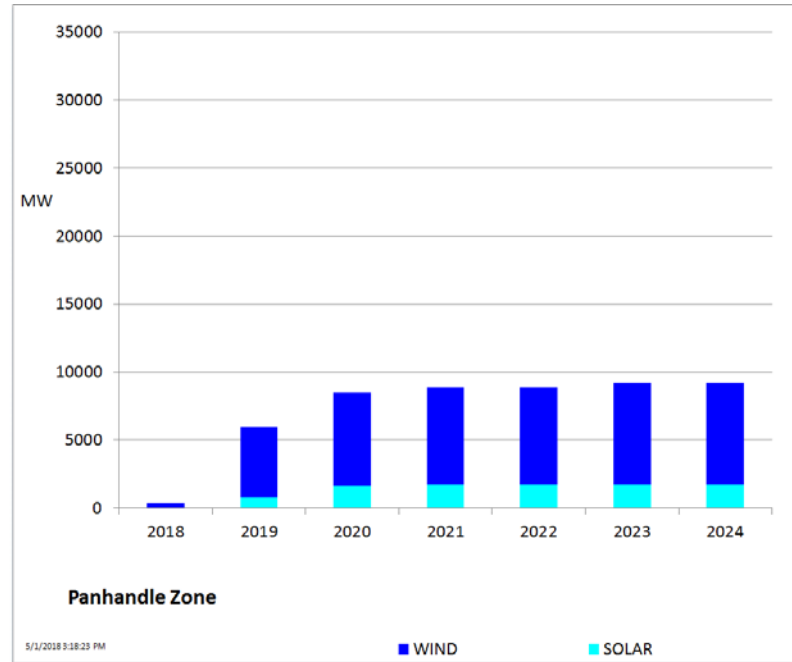
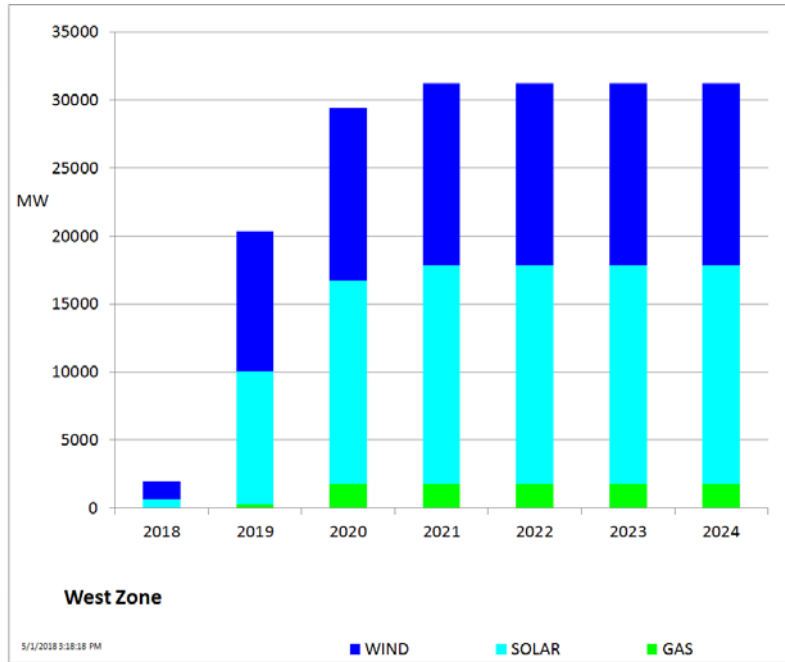
Mapping of Counties to ERCOT Zones – April 2018



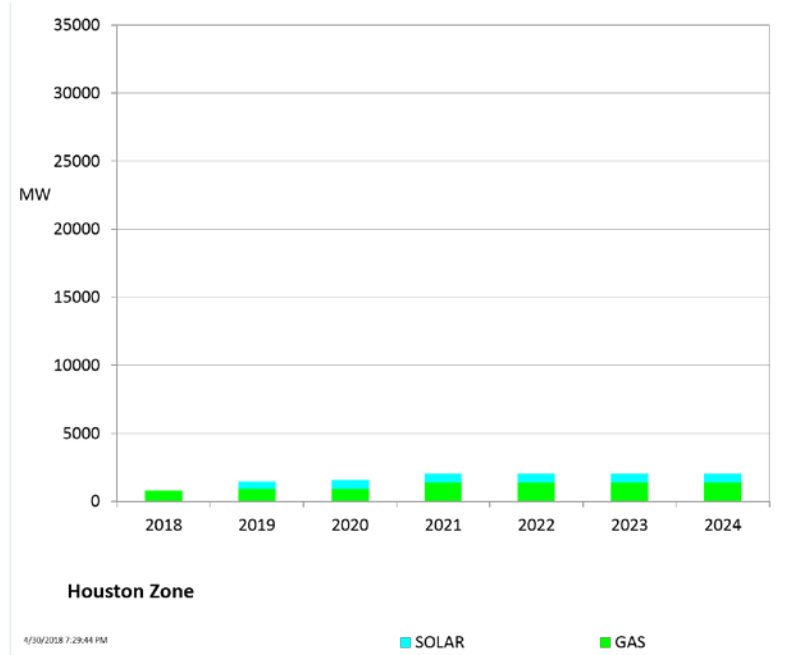
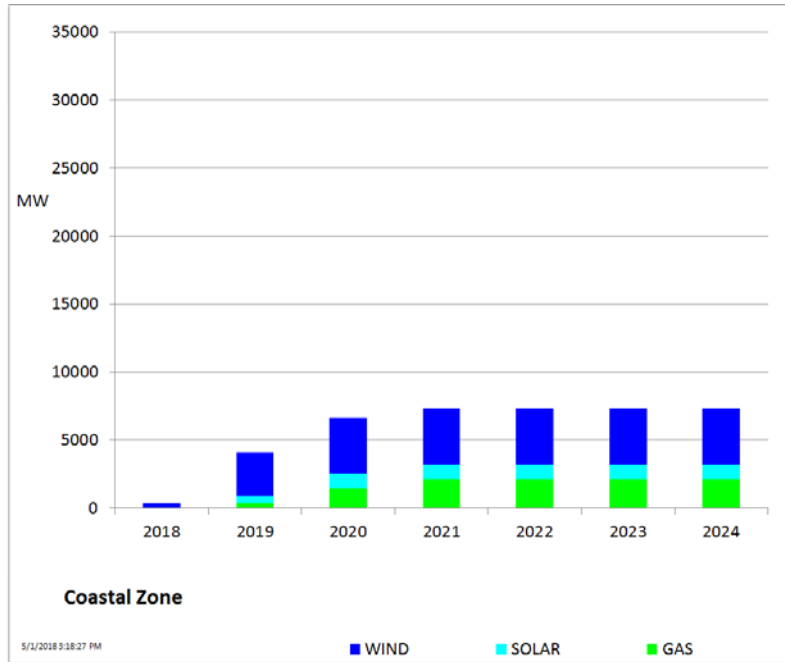
Cumulative MW Capacity of Interconnection Requests by Zone – April 2018



Cumulative MW Capacity of Interconnection Requests by Zone – April 2018

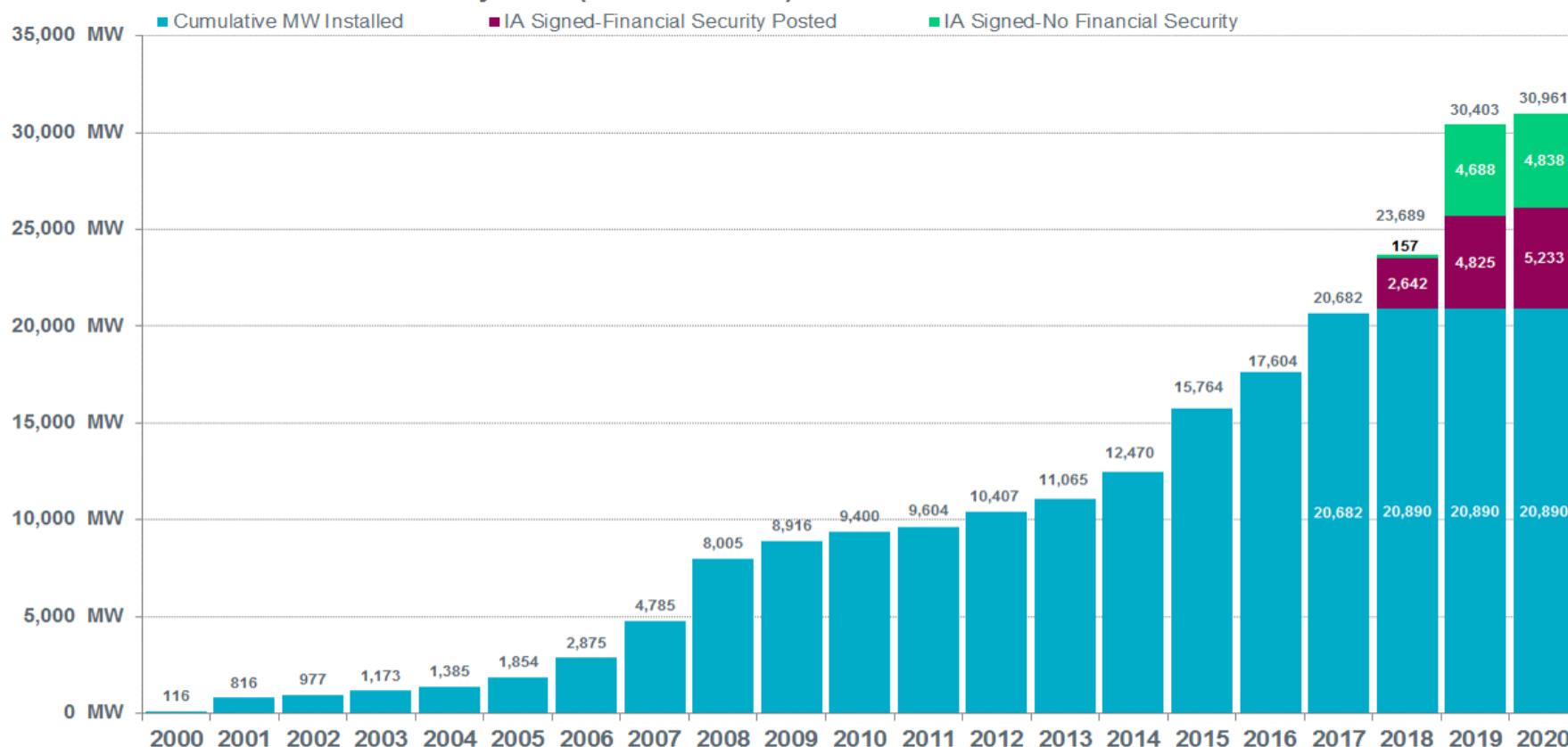


Cumulative MW Capacity of Interconnection Requests by Zone – April 2018



Wind Generation – April 2018

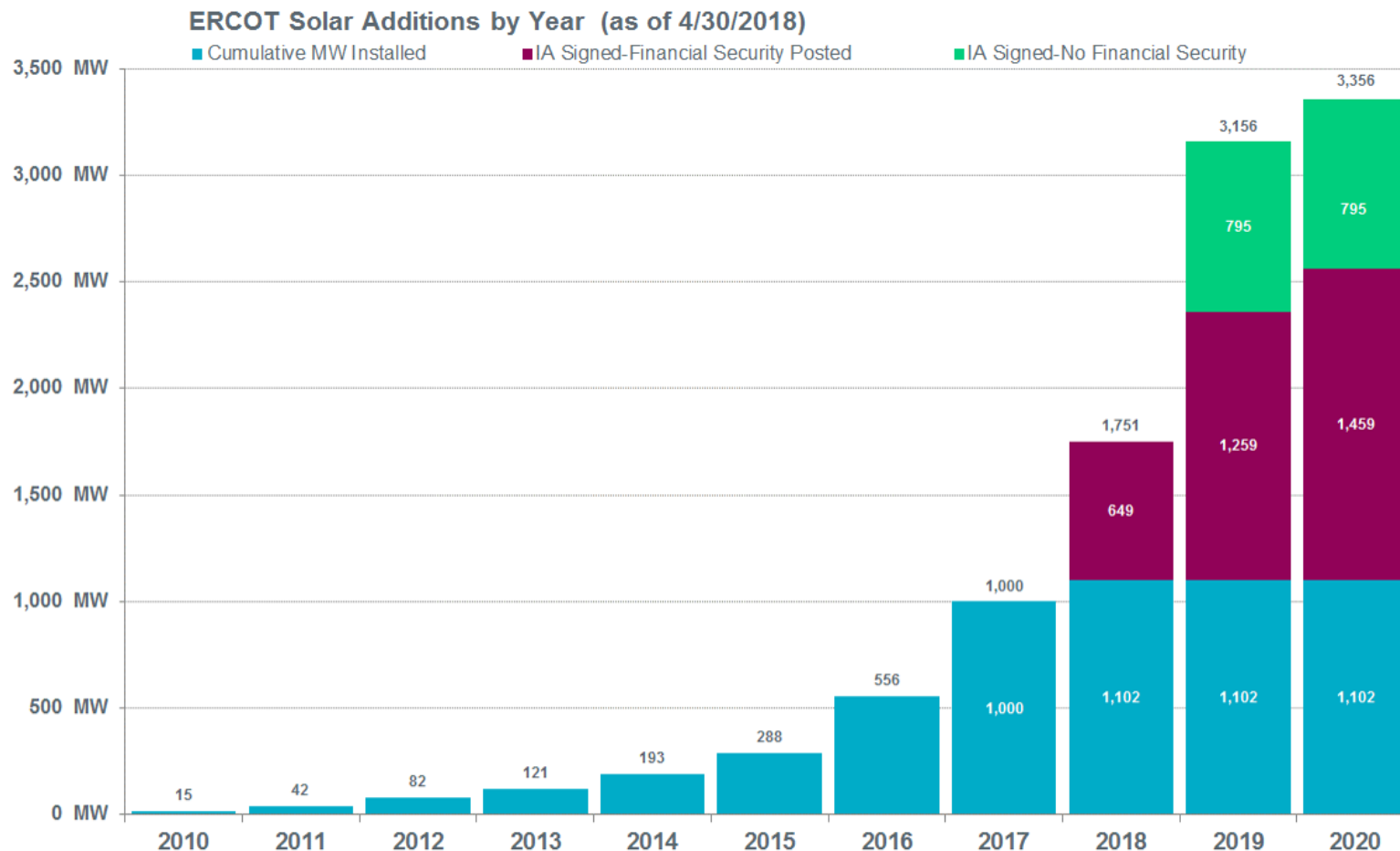
ERCOT Wind Additions by Year (as of 4/30/2018)



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.

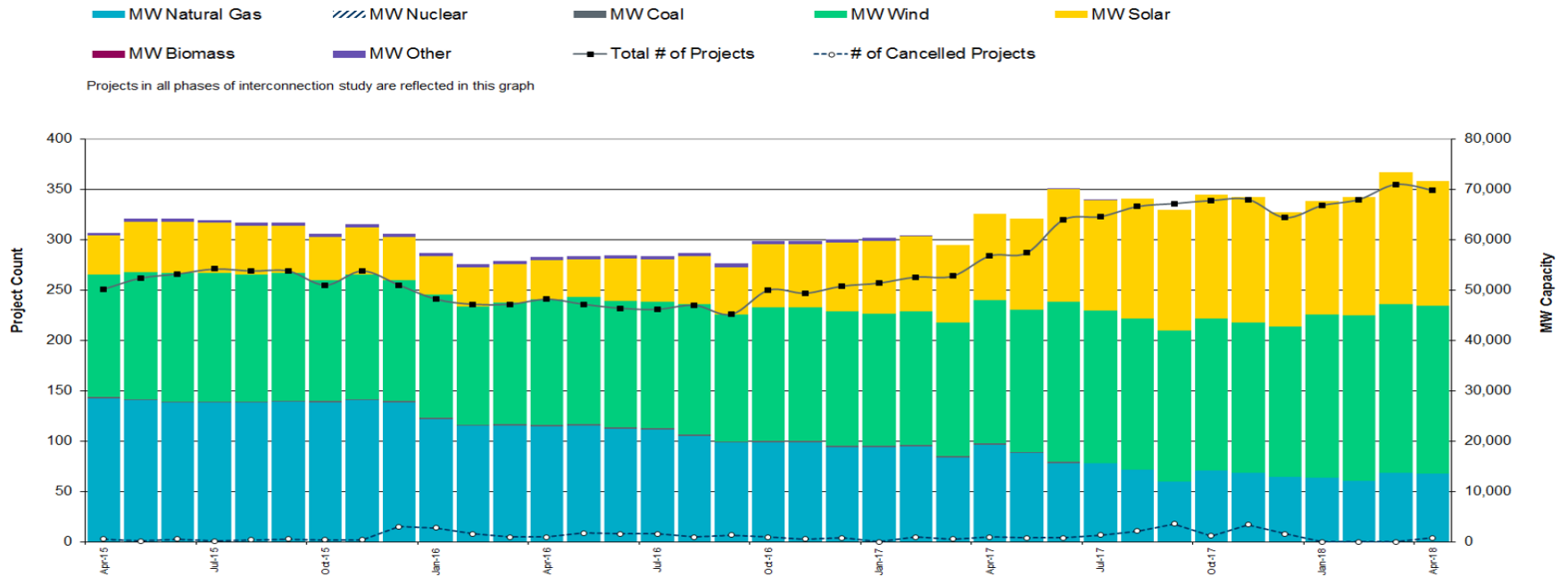
Solar Generation – April 2018



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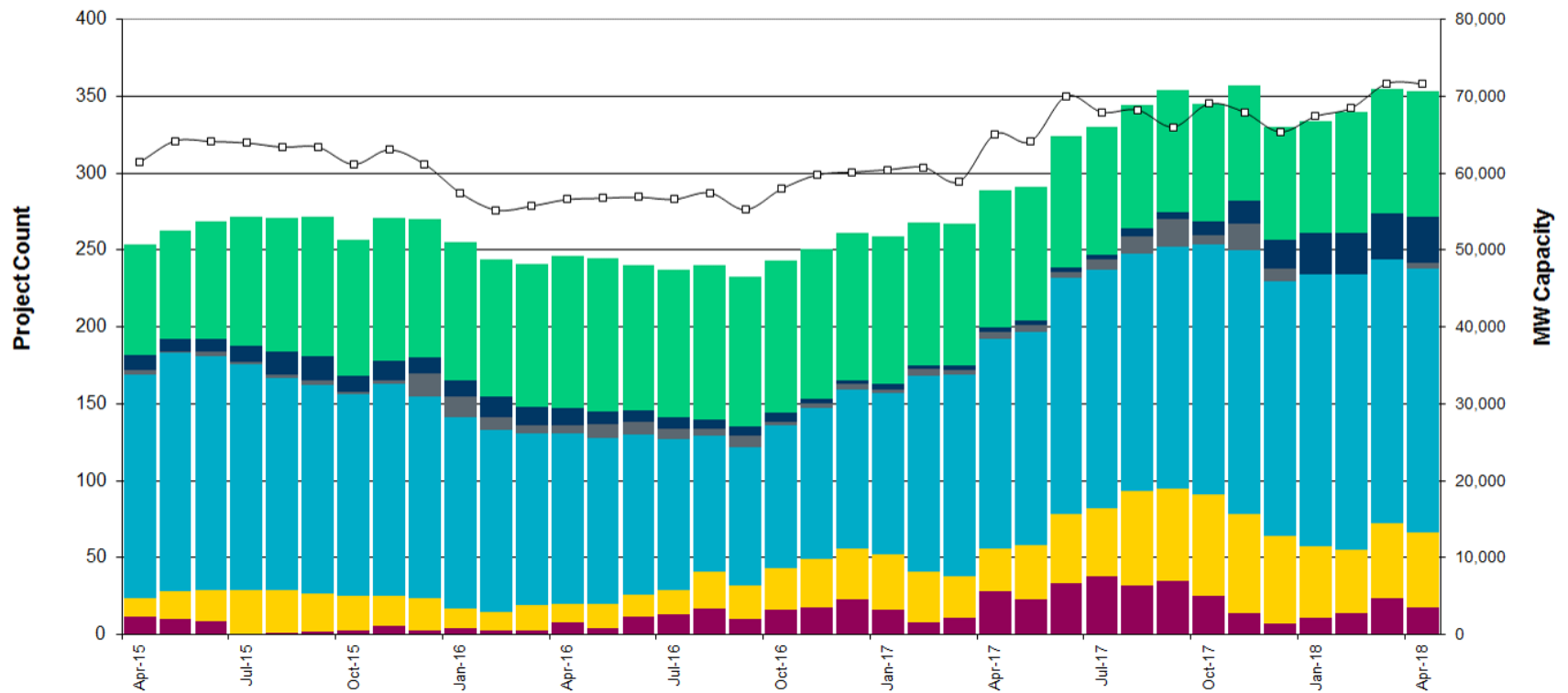
Generation Interconnection Activity by Fuel – April 2018



Generation Interconnection Activity by Project Phase – April 2018

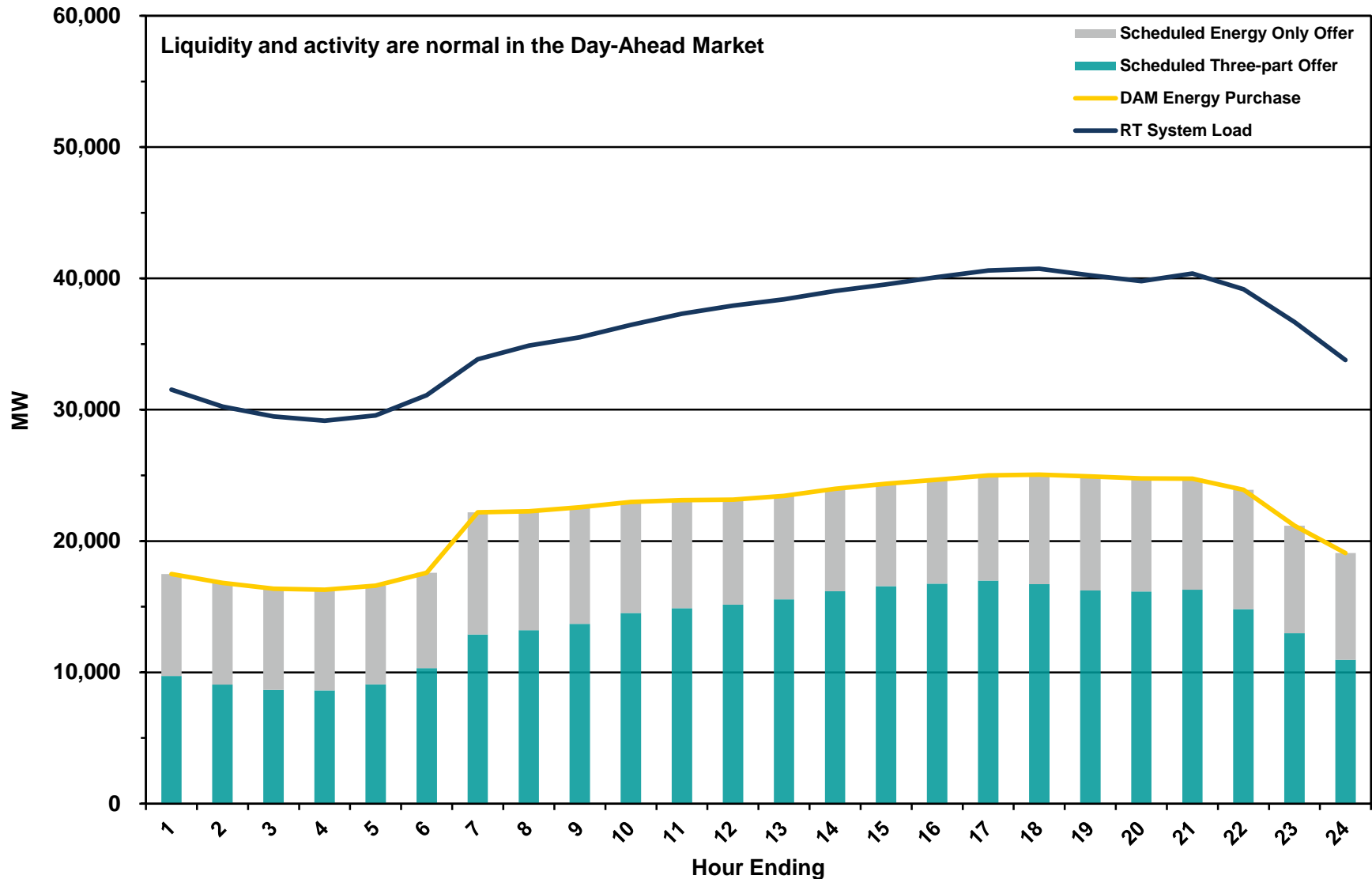
■ # Signed Interconnect Agreement ■ # Completed Full Study ■ # Projects Cancelled ■ # in Full Study
■ # Screening Study Complete ■ # Initial Screening Study —□— MW Capacity Under Study *

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

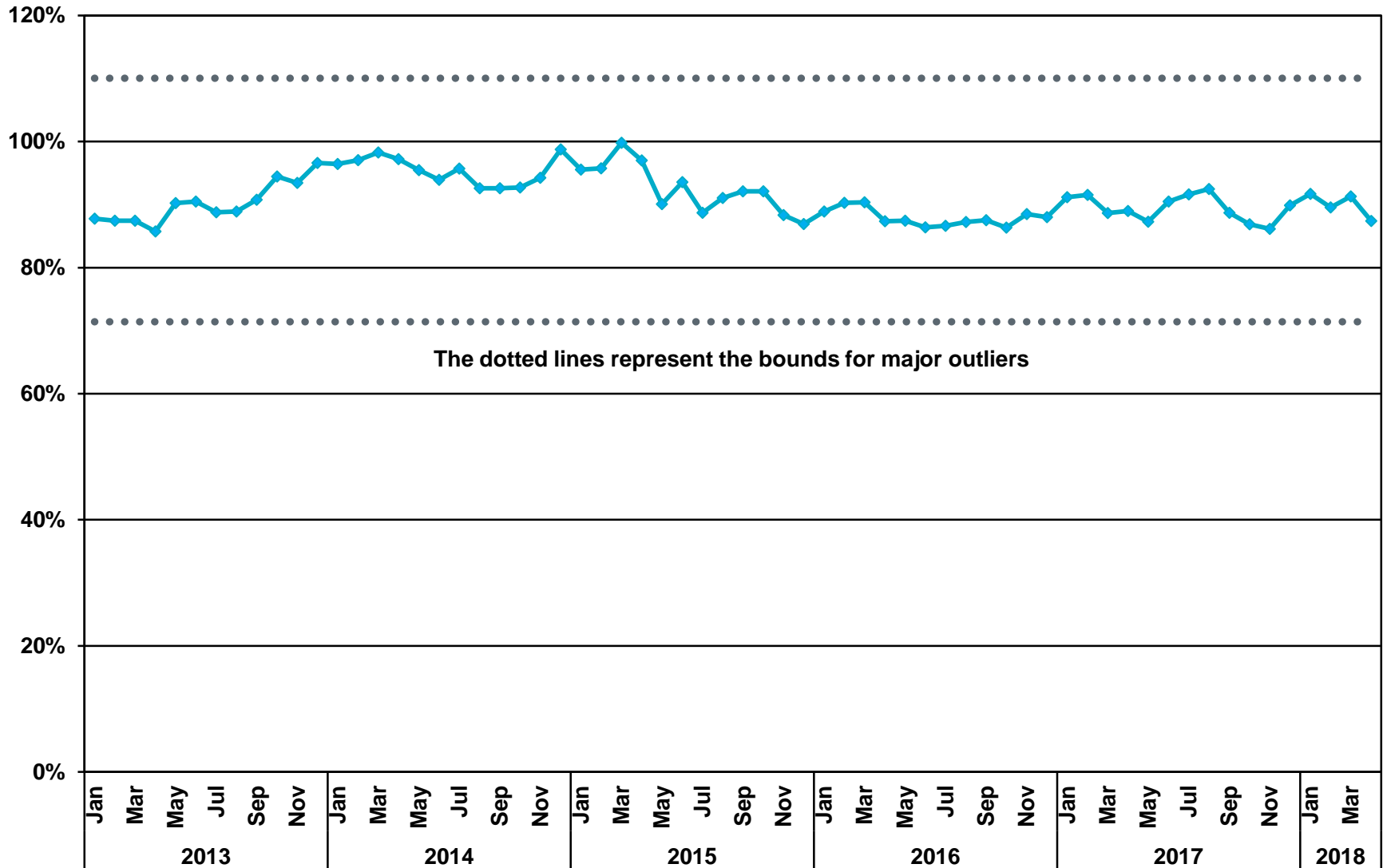


Market Operations

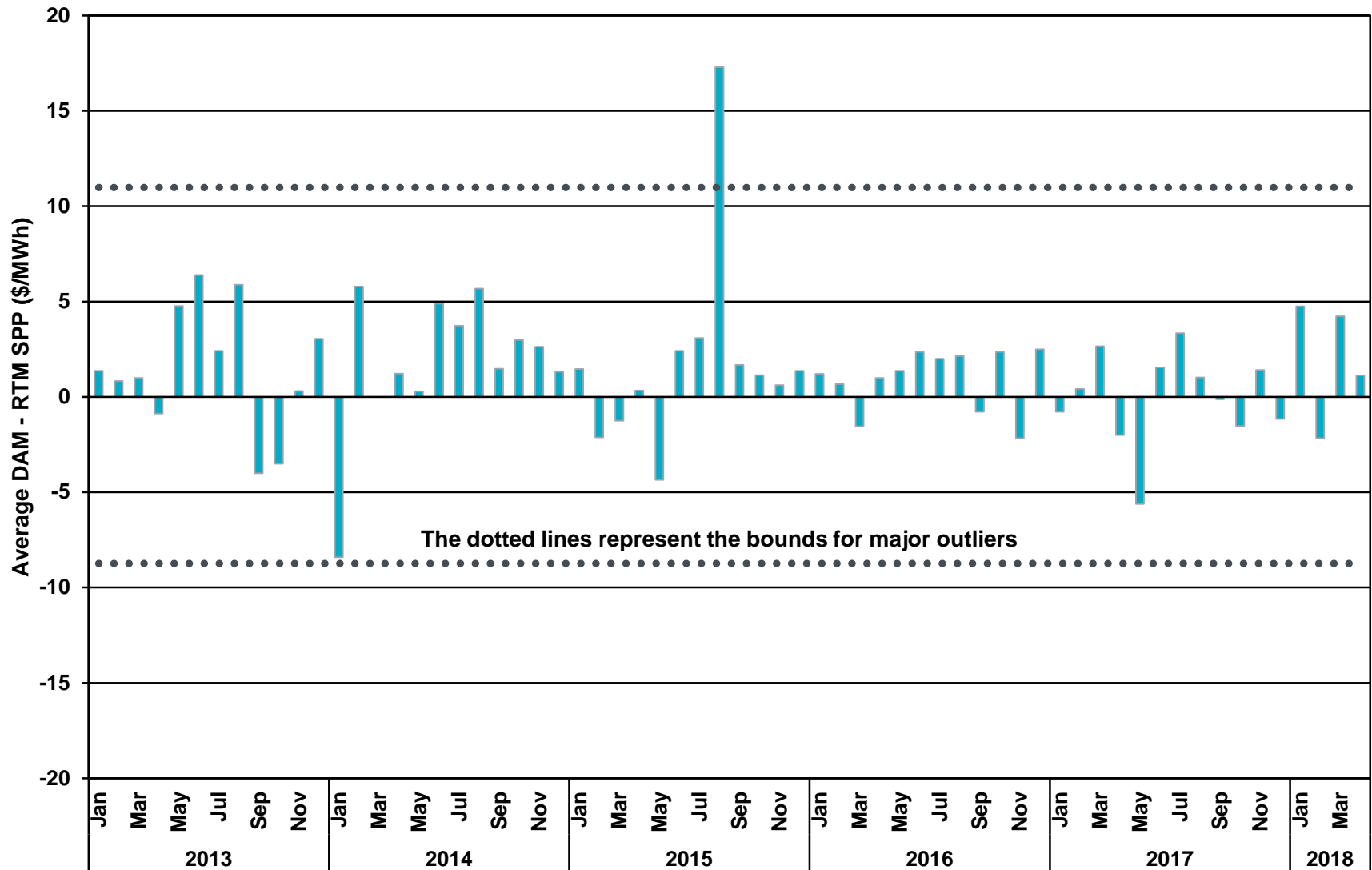
Day-Ahead Schedule (Hourly Average) – April 2018



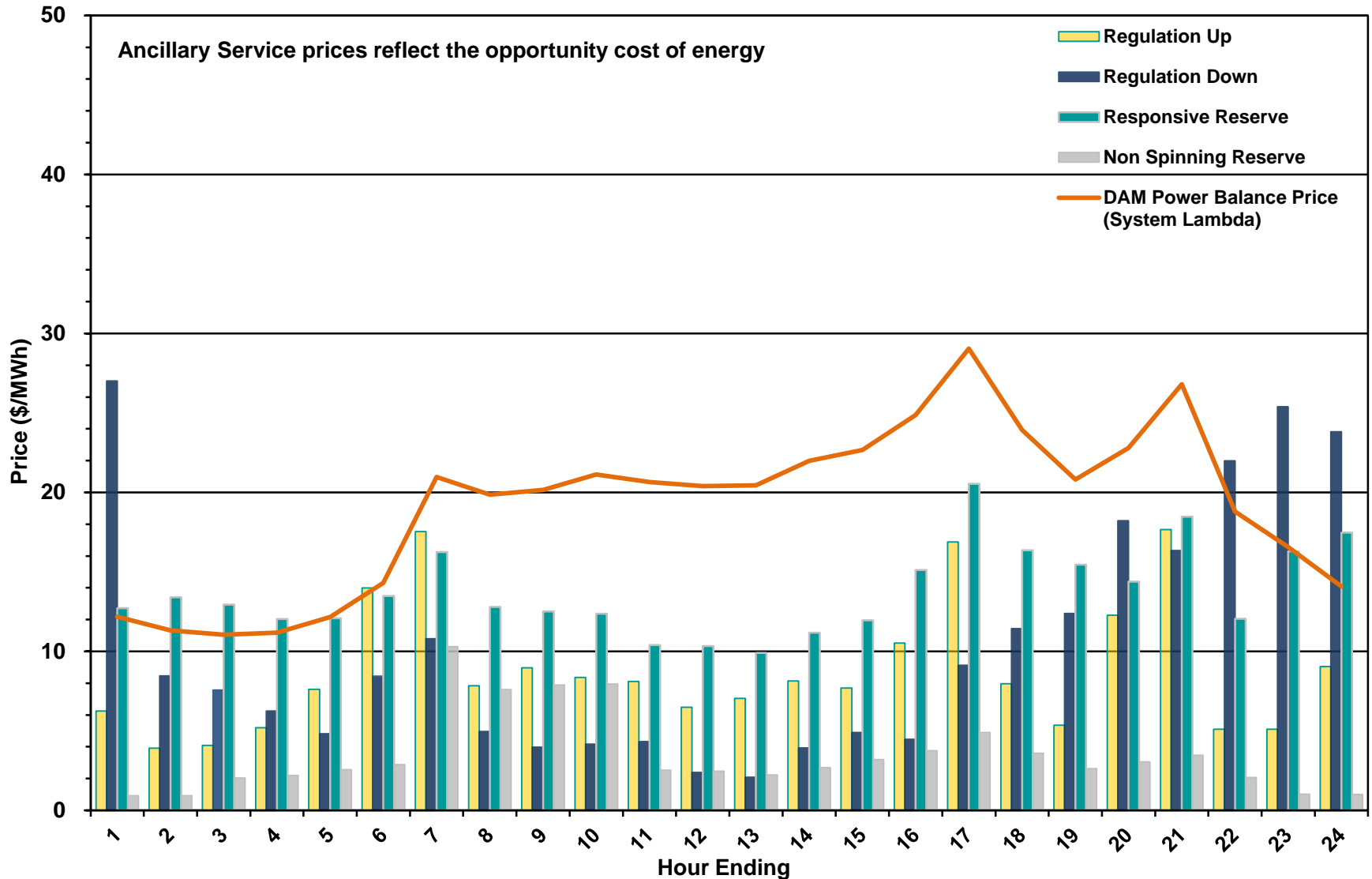
Percentage of Real-Time Load Hedged in the DAM (Counter-Party Level) – April 2018



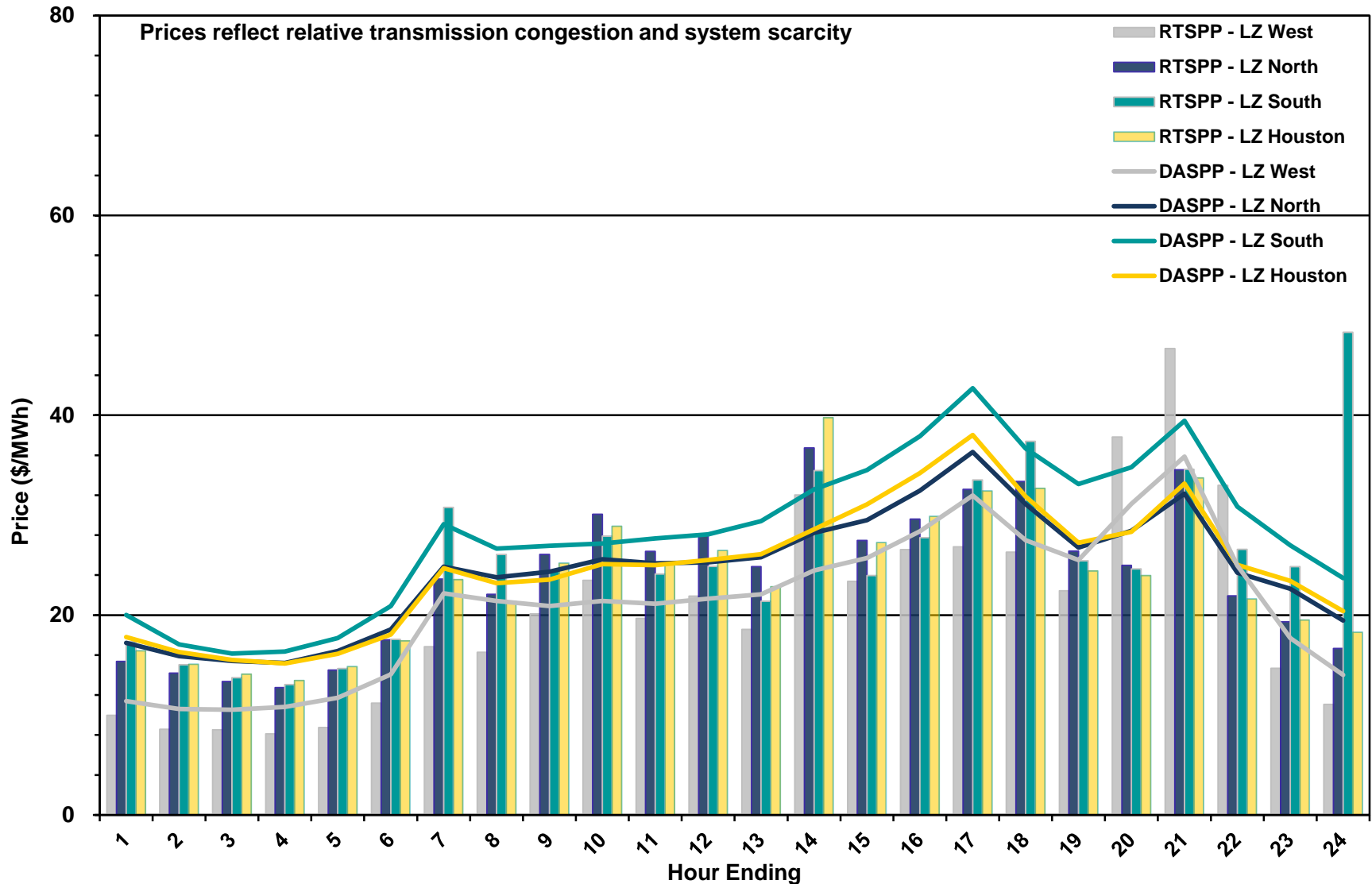
DAM and RTM Price Convergence – April 2018



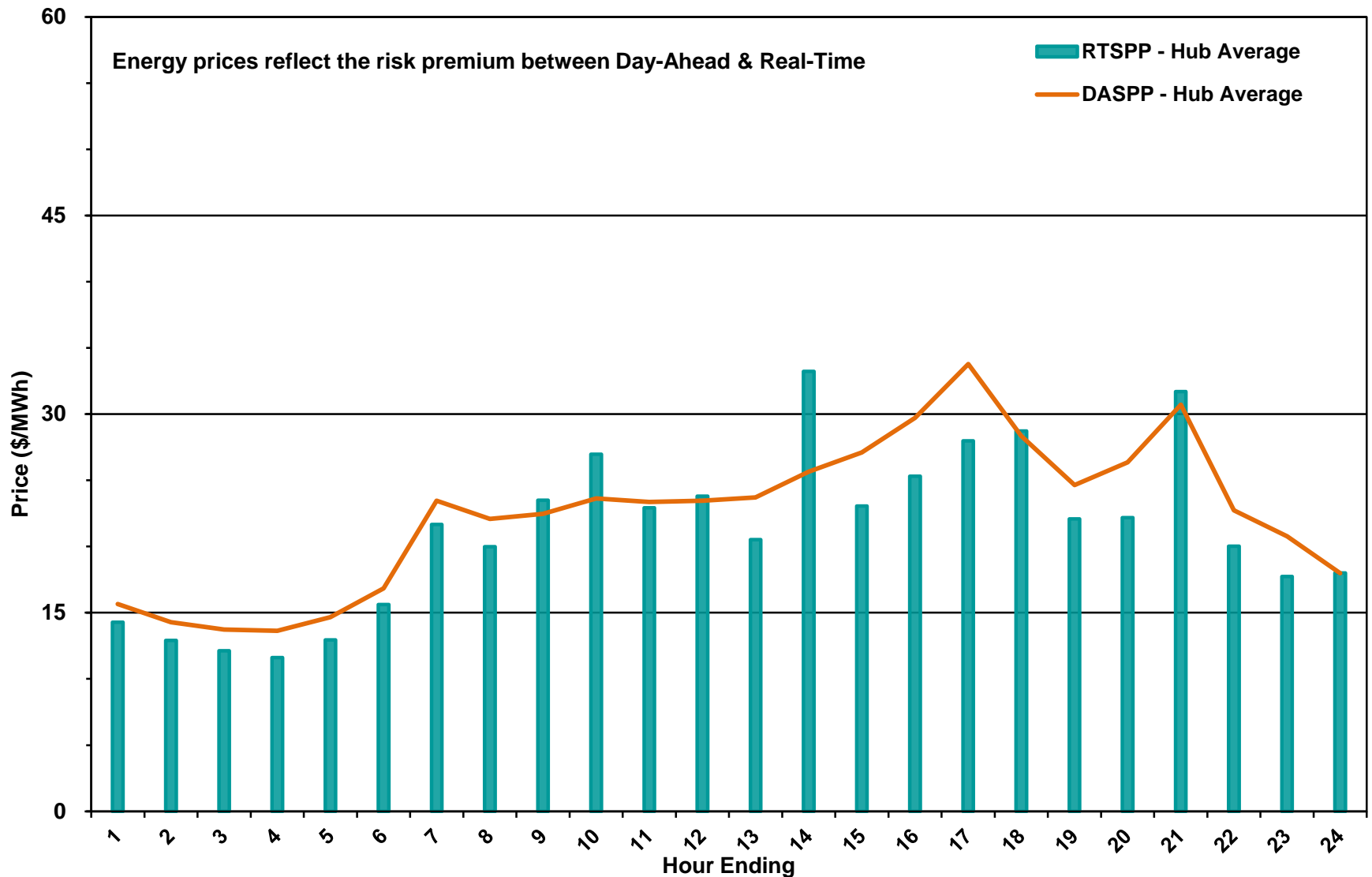
Day-Ahead Electricity and Ancillary Service Prices (Hourly Average) – April 2018



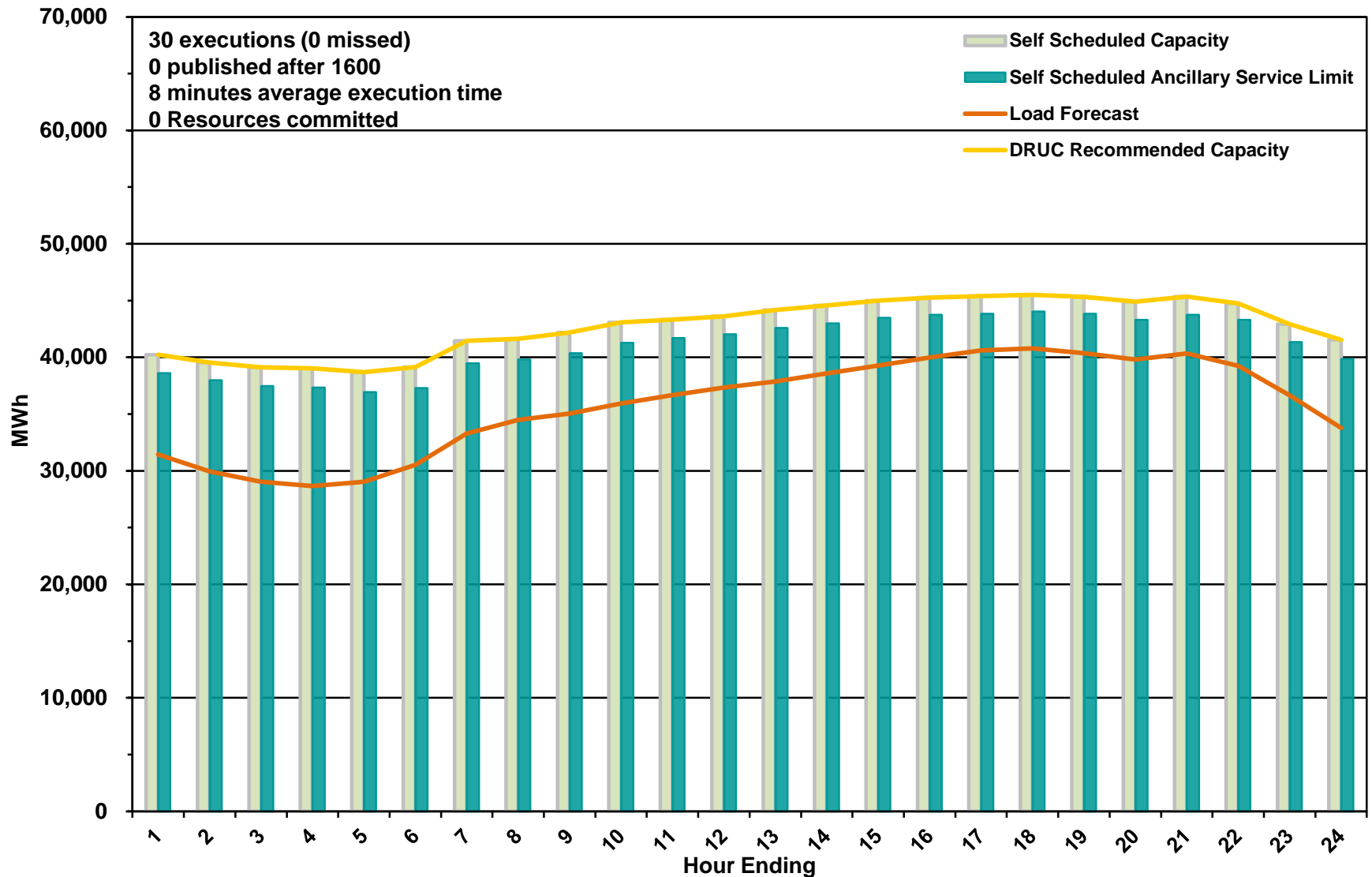
Day-Ahead vs Real-Time Load Zone SPP (Hourly Average) – April 2018



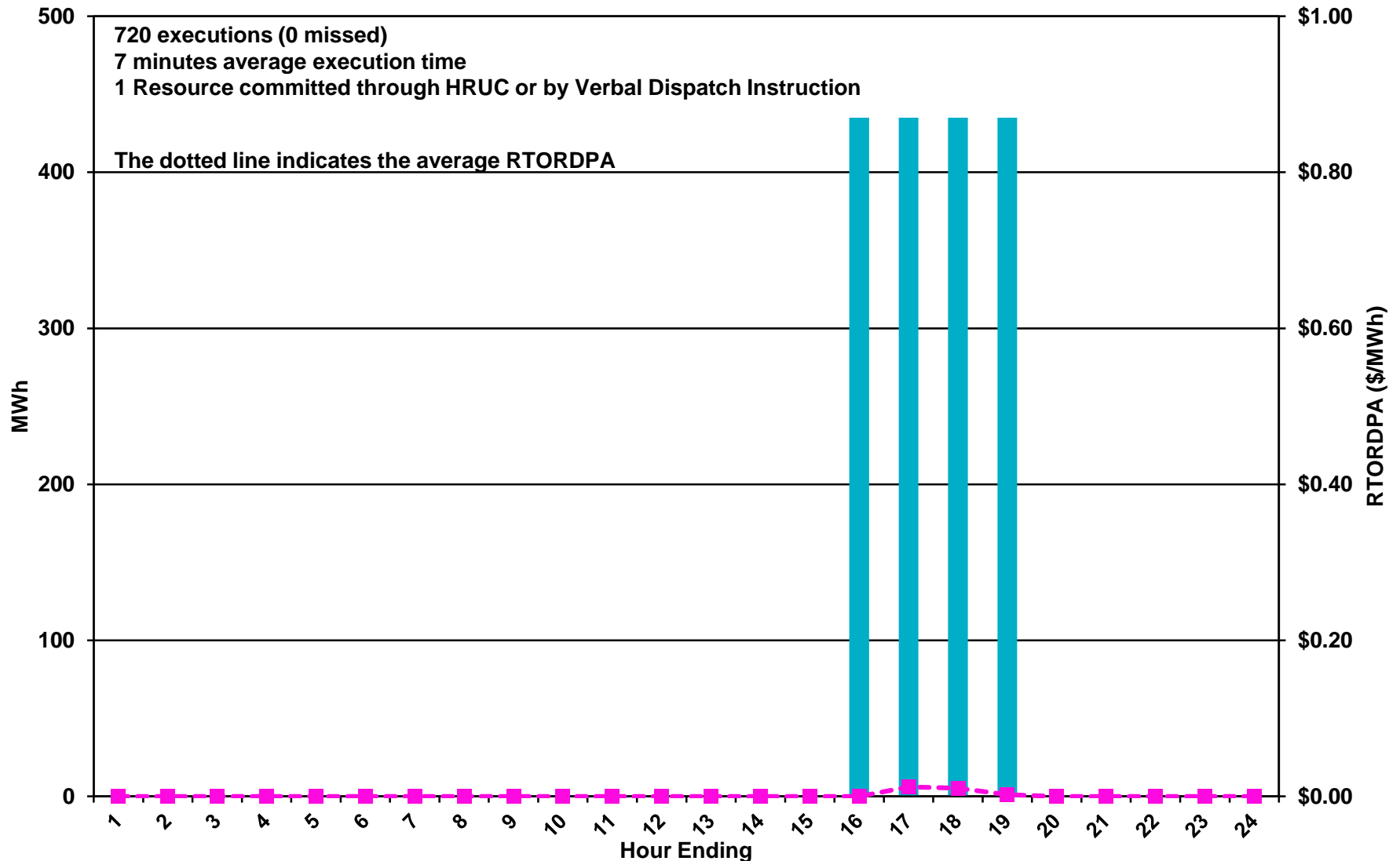
Day-Ahead vs Real-Time Hub Average SPP (Hourly Average) – April 2018



DRUC Monthly Summary (Hourly Average) – April 2018



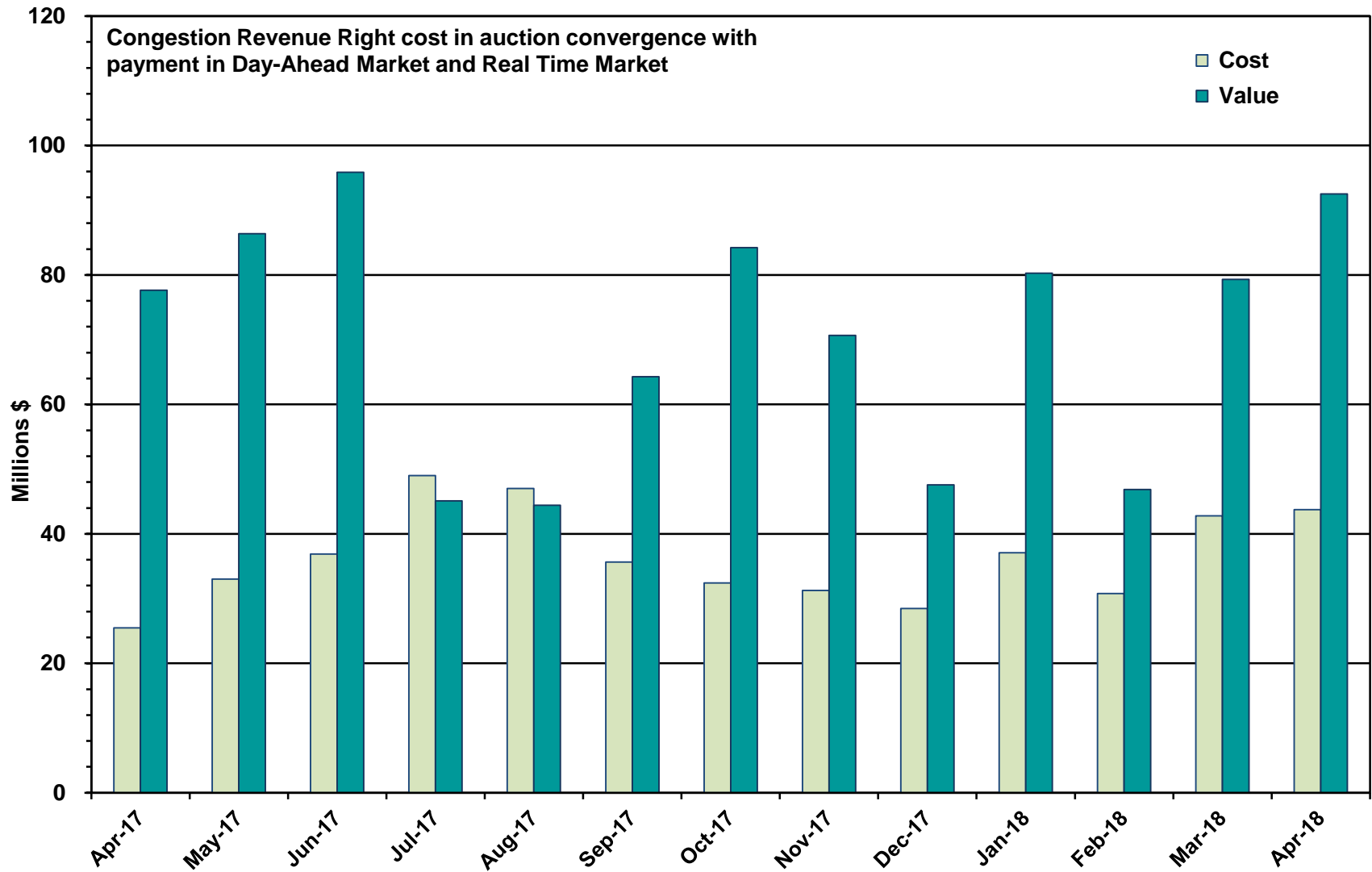
HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) (Hourly Average) – April 2018



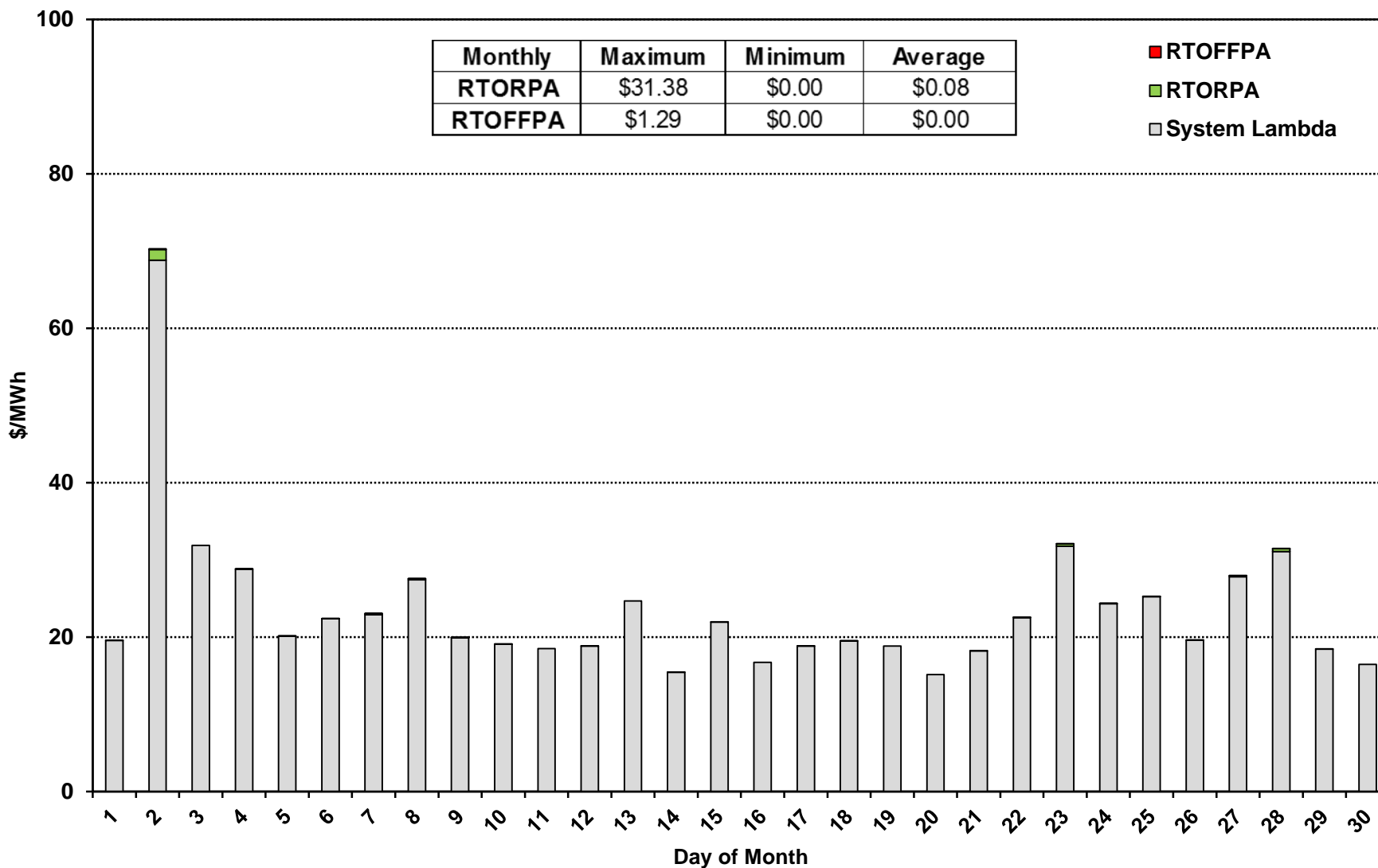
Non-Spinning Reserve Service Deployment – April 2018

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
4/11/2018 15:16:56	4/11/2018 23:59:00	8.7 Hours	49.6 MW	Local Voltage
4/12/2018 13:25:17	4/12/2018 22:00:39	8.6 Hours	138 MW	Local Voltage
4/12/2018 20:04:51	4/12/2018 23:59:00	3.9 Hours	66 MW	Thermal Congestion
4/25/2018 12:11:13	4/25/2018 17:18:09	5.1 Hours	140 MW	Thermal Congestion

CRR Price Convergence – April 2018



Daily Average System Lambda and ORDC Price Adders – April 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

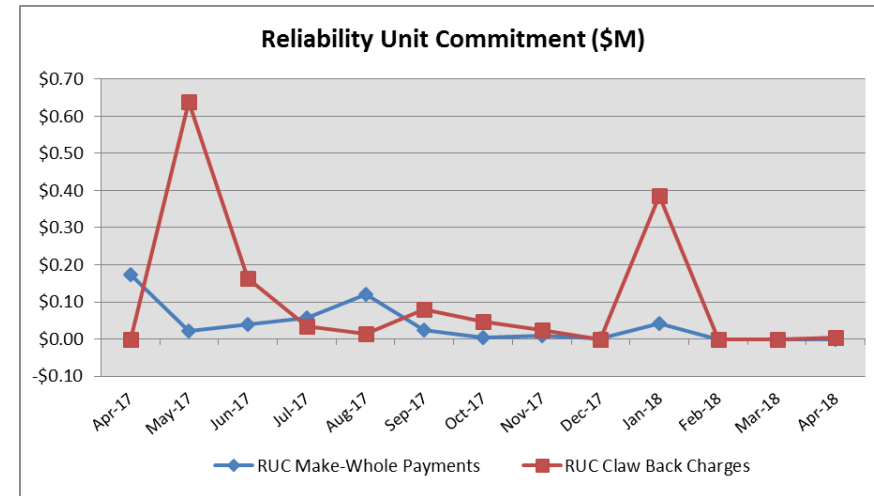
Time Period

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 – April 2018

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



In April 2018, there was a credit of \$0.00M allocated to load for RUC compared to:

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

Ancillary and Other Services – April 2018

Ancillary and Other Services	\$ in Millions
Regulation Up Service	\$2.07
Regulation Down Service	\$2.61
Responsive Reserve Service	\$21.78
Non-Spinning Reserve Service	\$3.97
Black Start Service	\$0.60
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges Allocated to Load	\$31.03

In April 2018, Ancillary and Other Services was a charge of \$31.03M, compared to:

- A charge of \$30.15M in March 2018
- A charge of \$27.49M in April 2017

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

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance	(\$76)
Real-Time Reliability Deployment AS Imbalance	(\$3)
Total RTASI Amount Allocated to Load	\$79

In April 2018, Real-Time Ancillary Service Imbalance was a charge to load of \$79K, compared to:

- A charge of \$17K in March 2018
- A charge of \$214K in April 2017

Energy Settlement – April 2018

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$389.53
Point to Point Obligation Purchases	\$72.48
Energy Sales	(\$364.51)
Day-Ahead Congestion Rent	\$97.50
Day-Ahead Market Make-Whole Payments	(\$0.12)

Day-Ahead Market energy settlement activity decreased from last month and decreased from April 2017.

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$249.42)
Energy Imbalance at a Load Zone	\$519.45
Energy Imbalance at a Hub	(\$194.02)
Net Real-Time Energy Imbalance	\$76.01
Real Time Congestion from Self Schedules	\$0.78
Block Load Transfers and DC Ties	(\$3.38)
Total Impact to Revenue Neutrality	\$73.41
Load-Allocated Emergency Energy Payments	(\$0.35)
Load-Allocated Base Point Deviation Charges	\$0.21

Congestion Revenue Rights (CRR) – April 2018

	\$ in Millions
Annual Auction	(\$35.86)
Monthly Auction	(\$7.87)
Total Auction Revenue	(\$43.73)
Day-Ahead CRR Settlements	(\$92.50)
Day-Ahead CRR Short-Charges	\$0.74
Day-Ahead CRR Short-Charges Refunded	(\$0.74)
Day-Ahead CRR Short-Charges Net	\$0.00
Total CRR Funding	(\$92.50)
Day-Ahead Point-to-Point Obligations	\$72.48
Real-Time Point-to-Point Obligations	(\$75.52)
Net Point-to-Point Obligations	(\$3.04)

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 \$3.04M compared to a net credit of \$20.52M last month.

CRR Balancing Account Fund – April 2018

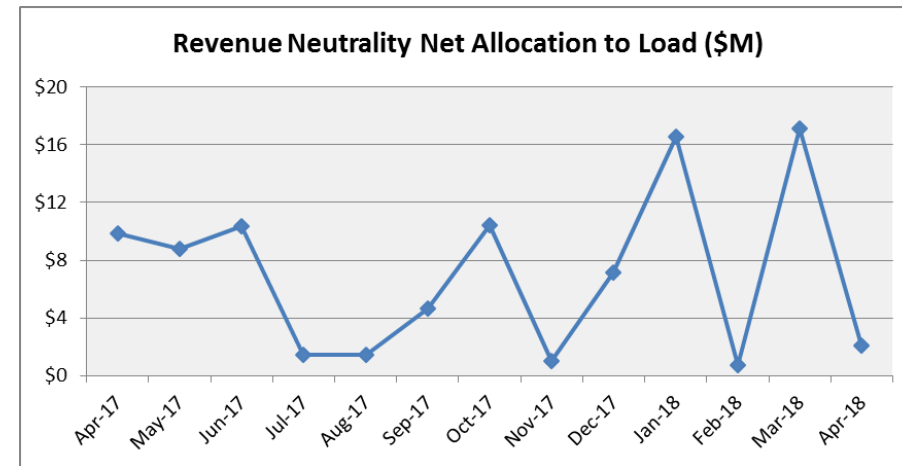
CRR Balancing Account	\$ in Millions
Monthly Day-Ahead Congestion Rent	\$97.50
Monthly Day-Ahead CRR Settlements	(\$92.50)
Monthly Day-Ahead CRR Short -Charges	\$0.74
CRR Balancing Account Credit Total	\$5.74
Beginning Fund Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$5.74
Day-Ahead CRR Short-Charges Refunded	(\$0.74)
CRR PTP Option Award Charges	\$0.05
Load-Allocated CRR Amount	(\$5.05)
Total Fund Amount	\$10.00

Revenue Neutrality – April 2018

Revenue Neutrality	\$ in Millions
Real-Time Energy Imbalance	\$76.02
Real-Time Point to Point Obligation	(\$75.52)
Real-Time Congestion from Self-Schedules	\$0.78
DC Tie & Block Load Transfer	(\$3.38)
Allocation to Load	\$2.10

In April 2018, the Revenue Neutrality charge to load was \$2.10M compared to:

- A charge of \$17.14M in March 2018
- A charge of \$9.88M in April 2017

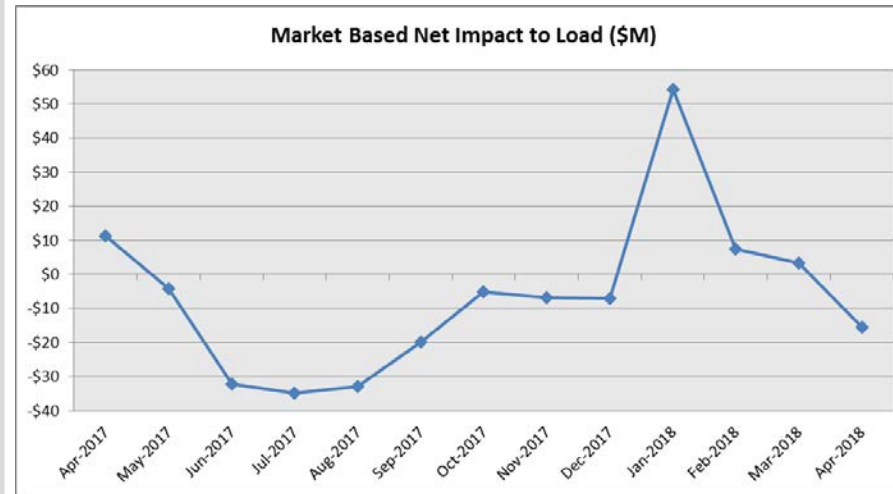


Net Allocation to Load – April 2018

Market-Based Allocation	\$ in Millions
Reliability Unit Commitment	\$0.00
Ancillary and Other Services	\$31.03
Real-Time Ancillary Service Imbalance	\$0.08
Emergency Energy	\$0.35
Base Point Deviation	(\$0.21)
CRR Auction Revenue	(\$43.73)
CRR Balancing Account	(\$5.05)
Real-Time Revenue Neutrality	\$2.10
Reliability Must Run	\$0.00
Monthly Block Load Transfer	\$0.00
Total	(\$15.43)
Fee Allocation	
ERCOT Administrative Fee	\$14.36
Net Allocated to Load	(\$1.07)

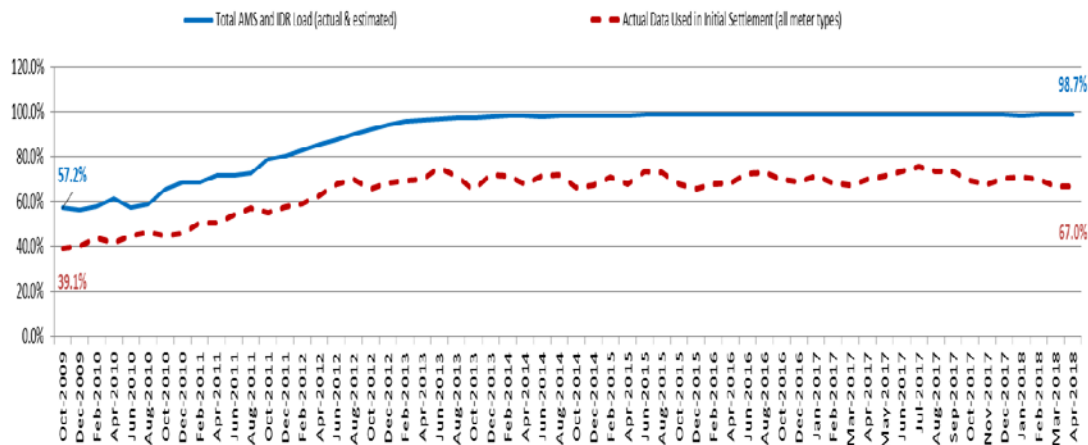
In April 2018, the Net Allocation to load was a credit of \$1.07M compared to:

- A charge of \$18.00M in March 2018
- A charge of \$25.76M in April 2017



Advanced Meter Settlement Impacts – April 2018

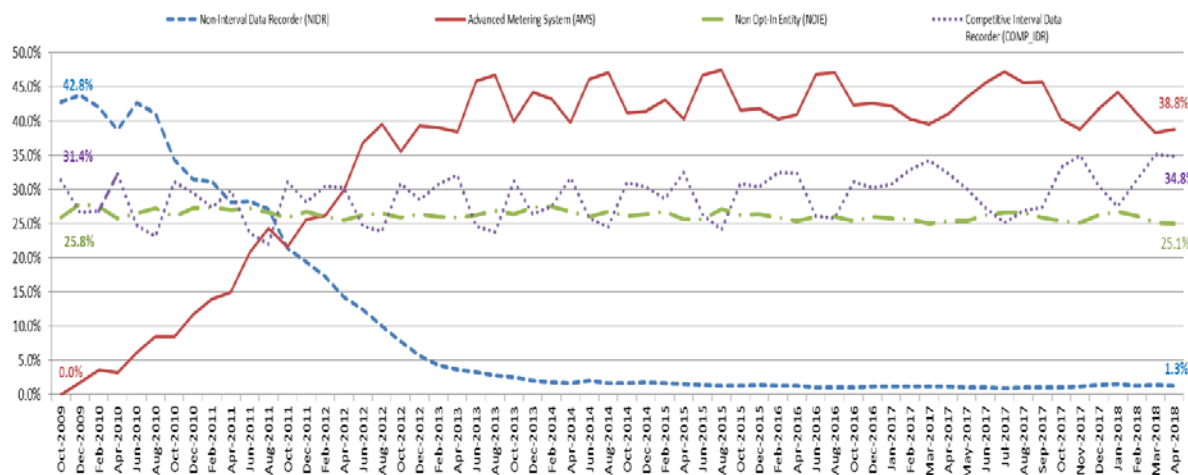
Percent Actual/Percent Interval Data Recorder (IDR)



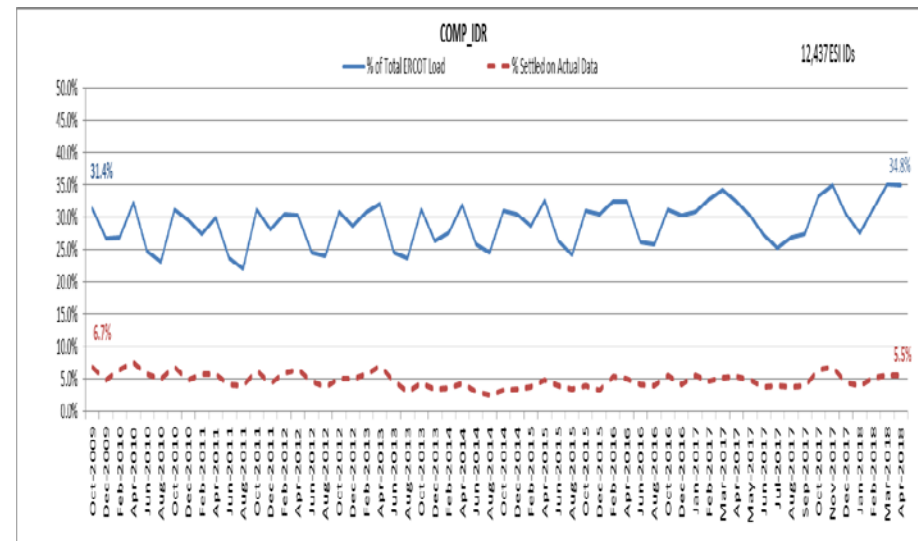
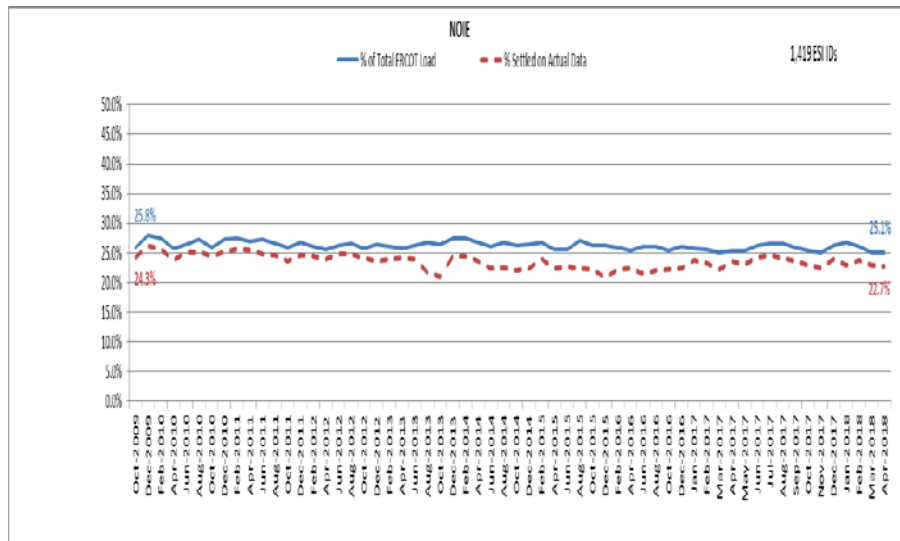
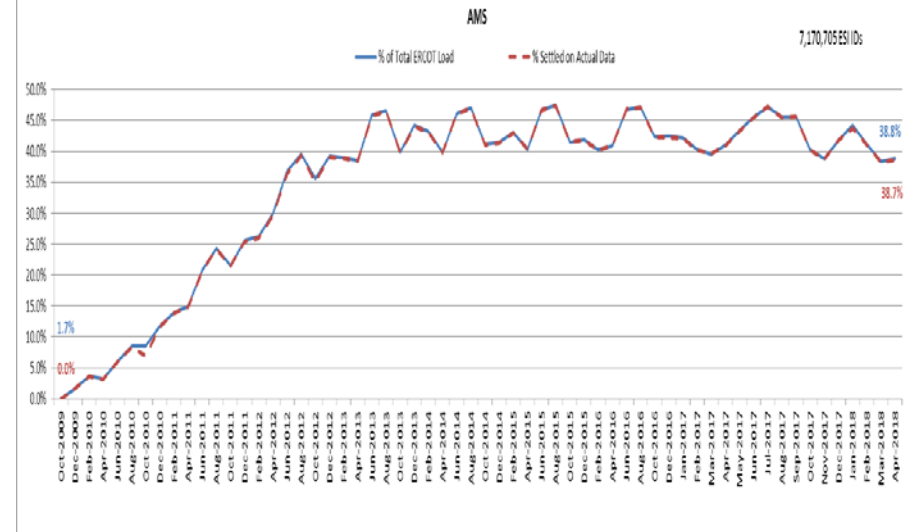
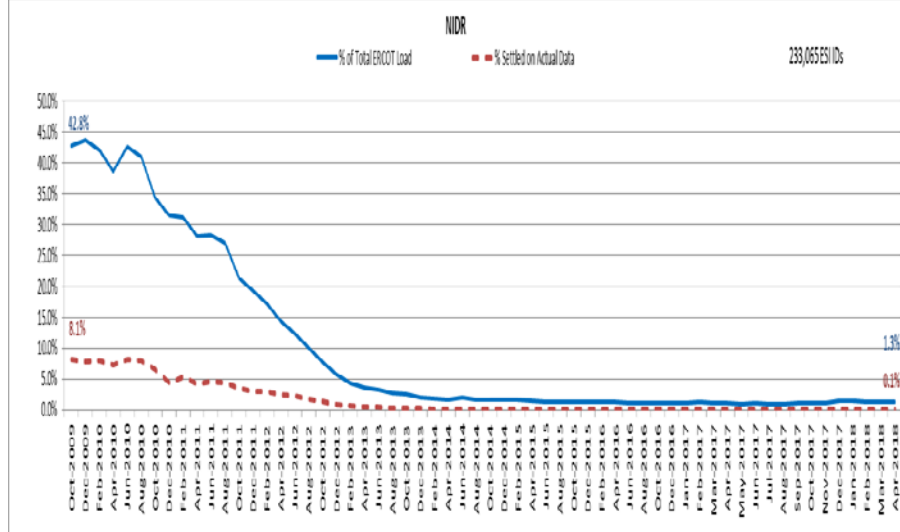
April 2018: At month end, settling 7.1M ESIIDs using Advanced Meter data.

April 2018: 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 – April 2018

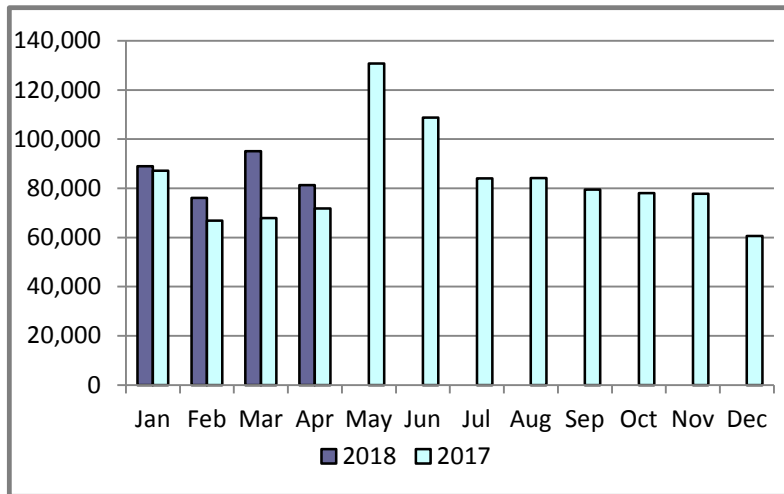


Retail Transaction Volumes – Summary – April 2018

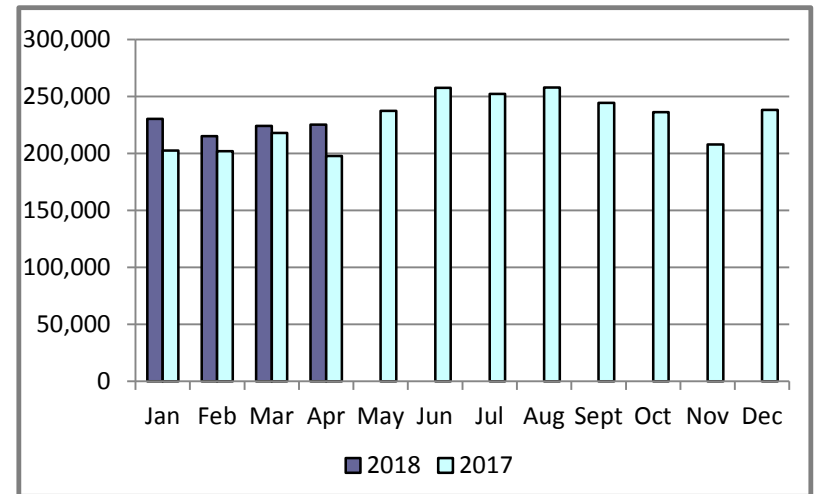
	Year-To-Date		Transactions Received	
Transaction Type	April 2018	April 2017	April 2018	April 2017
Switches	341,502	293,629	81,291	71,769
Acquisition	0	0	0	0
Move - Ins	895,359	820,423	225,380	197,865
Move - Outs	434,496	414,906	113,795	102,055
Continuous Service Agreements (CSA)	194,628	131,605	55,581	26,702
Mass Transitions	0	0	0	0
Total	1,865,985	1,660,563	476,047	398,391

Retail Transaction Volumes – Summary – April 2018

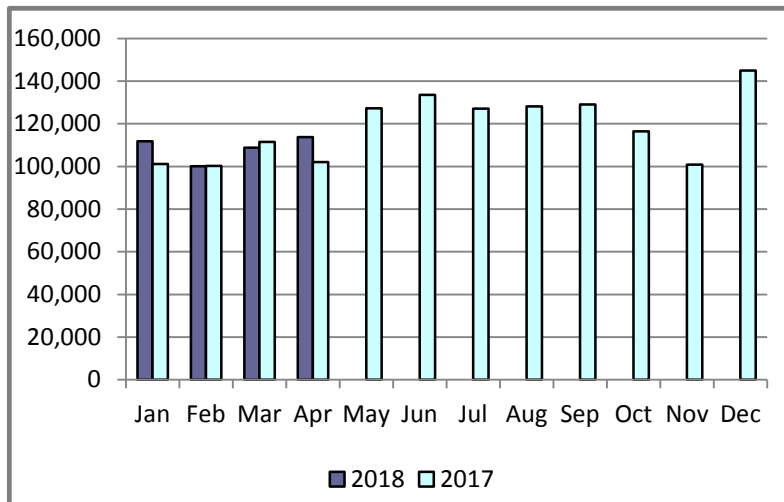
Switches/Acquisitions



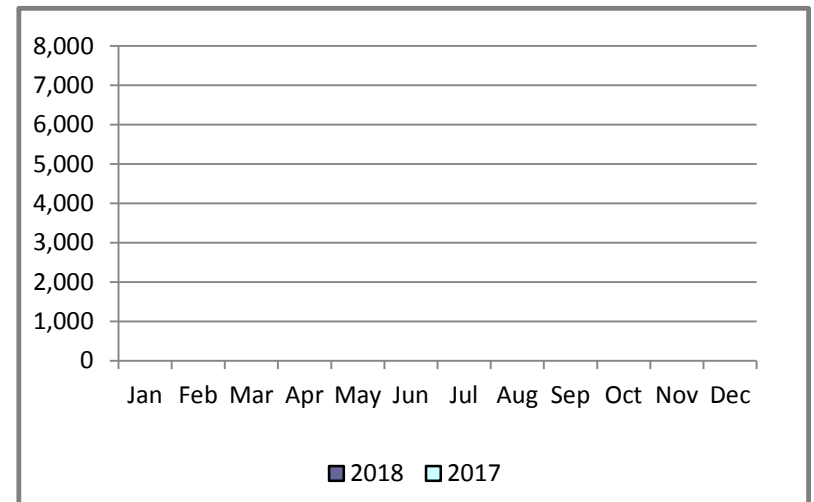
Move-Ins



Move-Outs

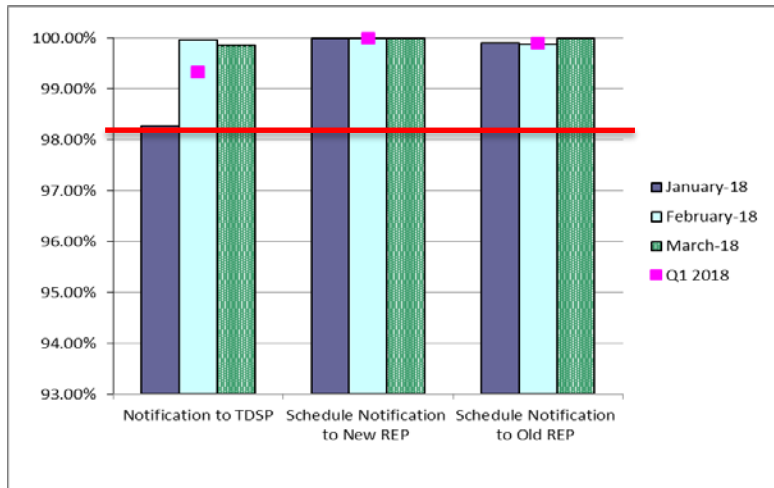


Mass Transition

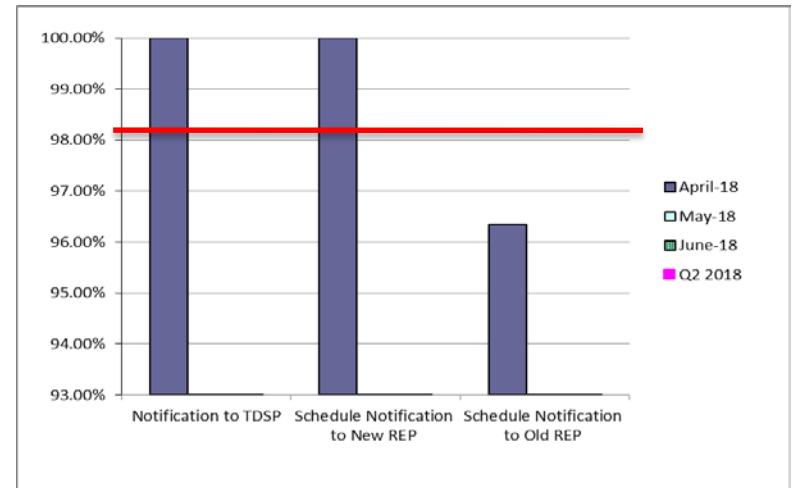


Retail Performance Measures – Switch – April 2018

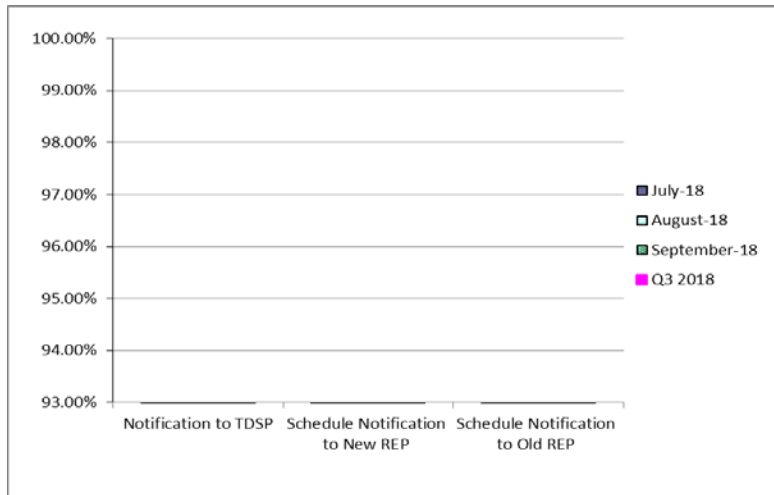
1st Quarter



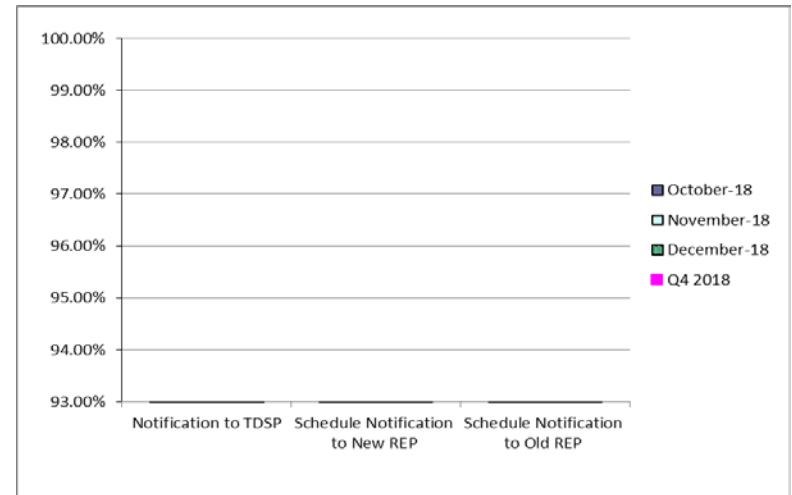
2nd Quarter



3rd Quarter

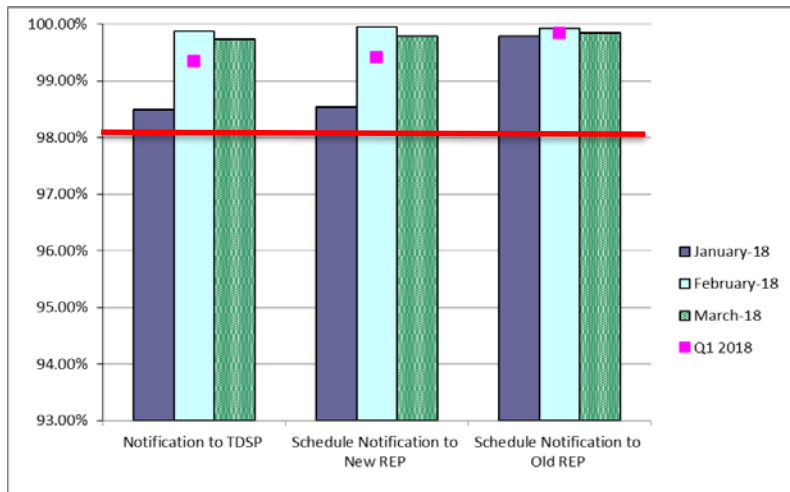


4th Quarter

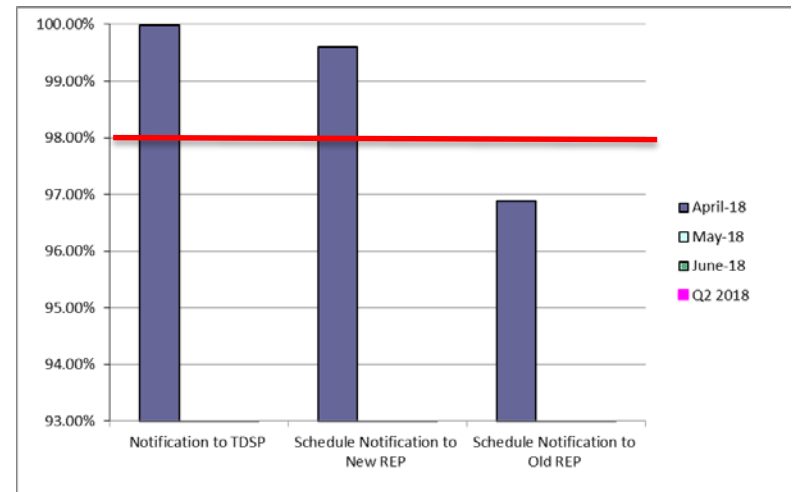


Retail Performance Measures – Same Day Move-In – April 2018

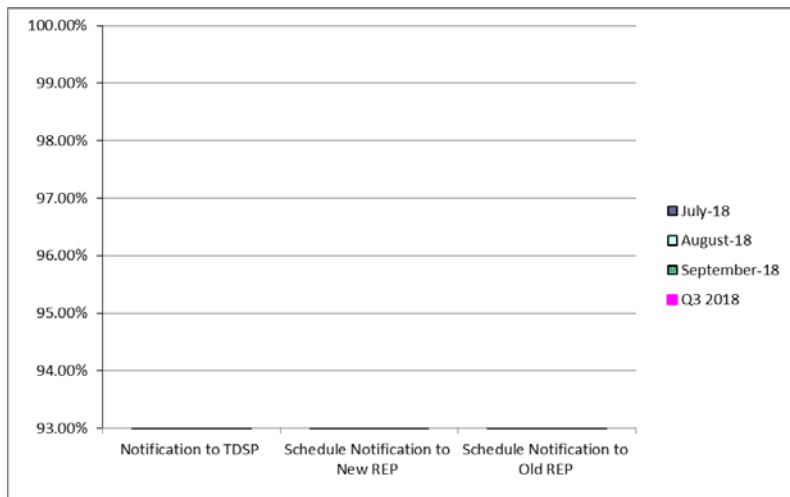
1st Quarter



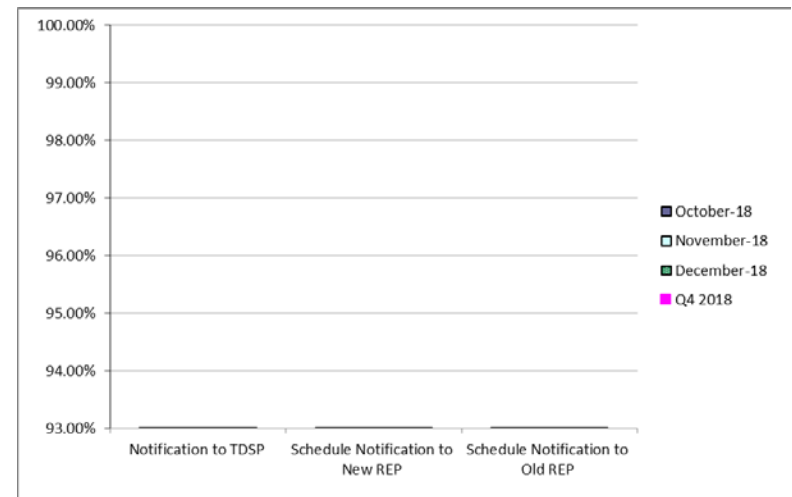
2nd Quarter



3rd Quarter

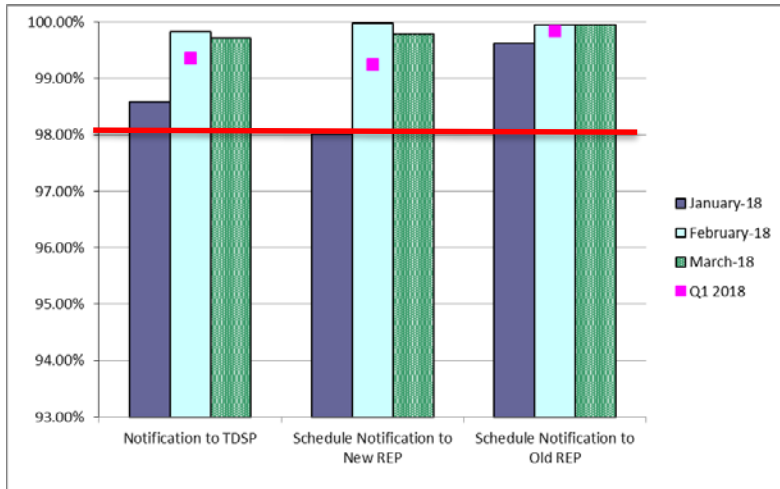


4th Quarter

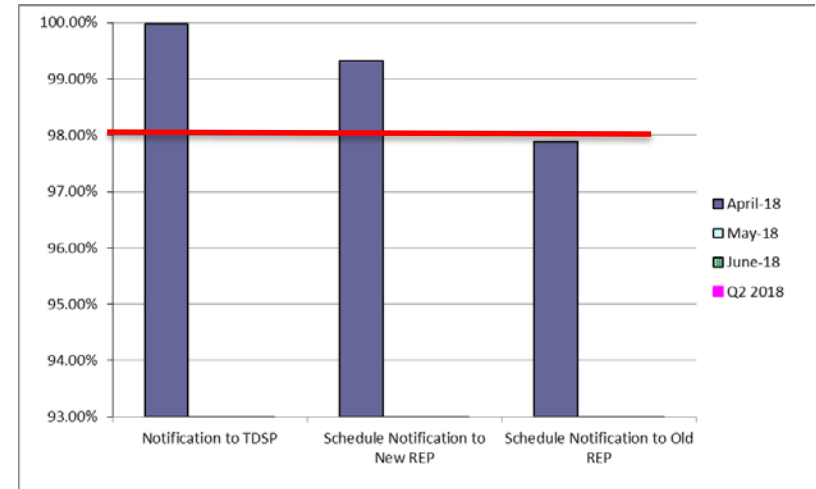


Retail Performance Measures – Standard Move-In – April 2018

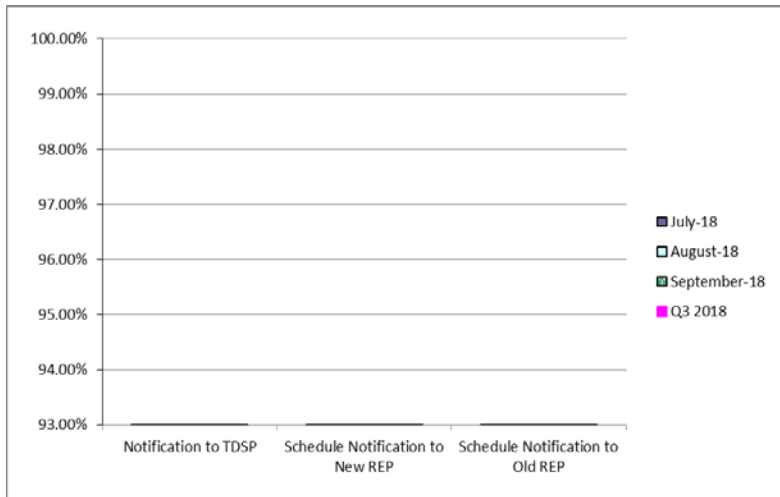
1st Quarter



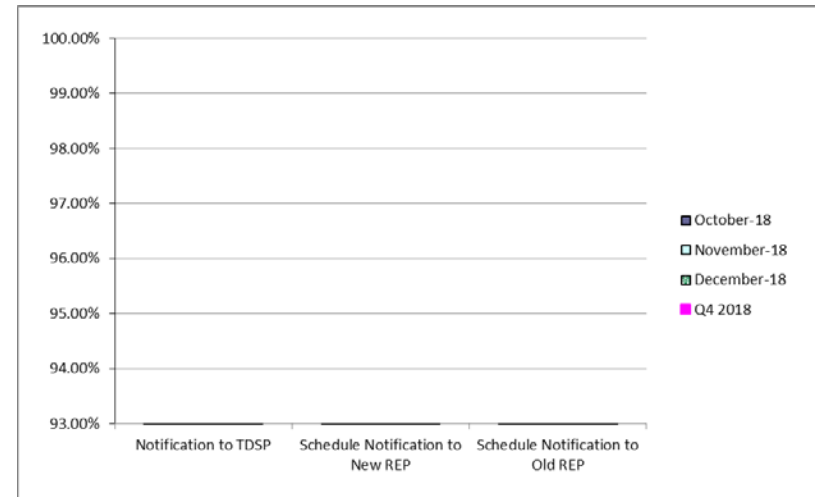
2nd Quarter



3rd Quarter



4th Quarter



Projects Report

ERCOT Portfolio Stoplight Report – April 2018

Impact Metric Tolerances	2018 Project Funding	\$20,000,000	2018 Portfolio Spending Estimate
Unfavorable variances are represented as negative numbers within the report.	Projects In Flight/On Hold (Count = 98)		\$ 21,838,794
- Green = No more than 4.9% unfavorable variance	Projects Not Yet Started (Count = 17)		\$ 1,629,219
- Yellow = Unfavorable variance between 4.9% and 9.9%	Projects Completed (Count = 28)		\$ 170,099
- Red = Unfavorable variance more than 9.9%	Spending Reductions Required to Maintain Capital Budget		\$ (3,638,112)
	TOTAL		\$ 20,000,000

Project Number	Projects in Initiation Phase (Count = 4)
NPRR843	Short-Term System Adequacy and AS Offer Disclosure Reports Additions
NPRR864	RUC Modifications to Consider Market-Based Solutions
SCR789	Update NMMS Topology Processor to PSSE 34 Capability
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 – April 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
209-02	Weather Imaging and Line Observation (WILO)	5/2/2018	5/23/2018	5/23/2018	TBD	5/23/2018		0%		15%
228-01	Enterprise Database Upgrade	4/25/2018	8/8/2018	8/8/2018	TBD	8/8/2018		0%		19%
242-01	Portfolio Reporting Assessment	11/8/2017	12/19/2018	12/19/2018	TBD	12/19/2018		0%		-2%
245-01	2017 EPS Metering Enhancements	12/13/2017	5/30/2018	5/30/2018	TBD	5/30/2018		0%		25%
260-01	Information Governance Assessment	10/18/2017	5/30/2018	5/30/2018	TBD	5/30/2018		0%		23%
279-01	Cyber Security Project #24	4/11/2018	6/27/2018	6/27/2018	TBD	6/27/2018		0%		-3%
282-01	Synchronous Condenser Outage Modeling	4/4/2018	5/16/2018	5/30/2018	TBD	5/30/2018		0%		8%
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
Project Number	Projects in Execution Phase (Count = 39)	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%		3%
170-06	ECAP - ECMS Implementation Phase 1	4/25/2018	11/30/2018	11/30/2018	11/30/2018	11/30/2018		0%		13%
173-02	ERCOT Flight Certification Website	11/15/2017	2/28/2019	2/28/2019	2/28/2019	5/31/2019		0%		6%
181-01	CRR Framework Upgrade	10/26/2016	10/2/2017	1/22/2018	TBD	TBD		0%		-2%
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	8/9/2018	10/3/2018		0%		0%
196-01	GINR Project Status Application Replacement	12/21/2016	9/14/2017	8/30/2018	8/30/2018	9/5/2018		0%		0%
198-02	Reactive Power Coordination PoC	9/6/2017	6/16/2018	6/16/2018	6/13/2018	6/13/2018		1%		68%
210-01	REC Technology Refresh	8/30/2017	3/18/2018	5/31/2018	5/31/2018	7/11/2018		0%		0%
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%		1%
239-01	Identity and Access Management	5/9/2018	3/13/2019	3/13/2019	3/13/2019	3/13/2019		0%		9%
241-01	AREA - Generation	10/11/2017	3/30/2018	8/9/2018	8/9/2018	9/5/2018		0%		0%
244-01	Corporate Wireless	11/29/2017	3/28/2018	12/5/2018	12/5/2018	12/5/2018		0%		4%
246-01	iTest Data Refresh	12/13/2017	11/9/2018	11/9/2018	11/9/2018	1/2/2019		0%		33%
249-01	Secondary Wind Forecasting Service	8/30/2017	2/28/2018	8/9/2018	8/9/2018	9/5/2018		0%		0%
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	-22%
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%		26%

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Project Number	Projects in Execution Phase (Count = 39)	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	6/4/2018	6/6/2018		0%		13%
259-01	DC SCADA and Metering Upgrade	10/25/2017	1/17/2018	5/11/2018	5/11/2018	6/30/2018		0%		48%
261-01	Generic Transmission Constraint Calculation	3/7/2018	12/13/2018	12/13/2018	12/13/2018	1/23/2019		0%		0%
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%		18%
266-01	Remote Email Access Enhancement	12/13/2017	3/7/2018	4/30/2018	5/9/2018	5/9/2018	1	-6%		7%
274-01	Average Mid-Term Load Forecast	3/7/2018	5/31/2018	5/31/2018	5/31/2018	6/27/2018		0%		19%
280-01	Quest Software Portfolio Transition	4/4/2018	6/27/2018	6/27/2018	6/27/2018	6/27/2018		0%		22%
Various	2015 CMM NPRRs									5%
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	5/19/2018	5/19/2018	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
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%		4%
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%		6%
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%		5%
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
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	4/25/2018	10/1/2018	12/1/2018	1	-126%		2%
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%		0%
Project Number	Expedited Projects in Execution (Count = 32)									

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Project Number	Projects in Stabilization (Count = 10)	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
NPRR776	Voltage Set Point Communication	9/20/2017	3/19/2018	4/5/2018	4/5/2018	6/27/2018		0%		9%
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
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%		17%
230-01	SAS Technical Architecture Redesign	3/1/2017	12/13/2017	12/13/2017	12/13/2017	6/13/2018		0%		6%
238-01	Application Authentication Tech Refresh	9/6/2017	3/19/2018	4/9/2018	4/9/2018	9/5/2018		0%		13%
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%		7%
Project Number	Projects On Hold (Count = 3)	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								NA	See 2015 CMM NPRRs
NPRR833	Modify PTP Obligation Bid Clearing Change									31%
269-01	Document Repository Redesign and Governance Implementation - Phase 1									80%
Project Number	Projects Completed (Count = 14)	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%		4%
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%
255-01	Settlements Architecture Enhancements	10/25/2017	1/11/2018	1/11/2018	1/11/2018	2/14/2018		0%		53%
271-01	Issue Tracking and Resolution Tool Assessment	12/13/2017	4/25/2018	4/25/2018	TBD	5/2/2018	1	-5%		-1%

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Project Number	Projects Completed (Count = 14)	Baseline Execution Phase Start	Baseline Go-Live Target	Approved Go-Live Target	Actual Go-Live Date	Actual Execution Phase Finish	Schedule Health	Budget Health
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%	65%
Project Number	Expedited Projects Completed (Count = 14)							

Project Number	2018 Projects Not Yet Started (Count = 17)	Forecast Start Date
NPRR858	Provide Complete Current Operating Plan (COP) Data	May-2018
TBD	Forward Looking Operations Analysis Tool (FLOAT)	May-2018
TBD	Java Platform Assessment	May-2018
SCR793	SSR Related Telemetry for Transmission Service Provider (TSP) Operators	Jun-2018
SCR794	Update SCED Limit Calculation	Jun-2018
SCR795	Addition of Intra-Hour Wind Forecast to GTBD Calculation	Jun-2018
NPRR842	Study Area Load Information	Jul-2018
NPRR865	Publish RTM Shift Factors for Hubs, Load Zones, and DC Ties	Jul-2018
RRGRR015	Additional Guidance for Transformer and Station Data	Jul-2018
RRGRR016	Additional Guidance for Solar Data	Jul-2018
TBD	Infrastructure Software Upgrade Assessment	Jul-2018
NPRR817	Create a Panhandle Hub	Sep-2018
TBD	Additional Branch Limit for Relays	Sep-2018
NPRR821	Elimination of the CRR Deration Process	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