



## ERCOT Monthly Operational Overview (January 2018)

ERCOT Public  
February 15, 2018

# Grid Planning & Operations

## Summary – January 2018

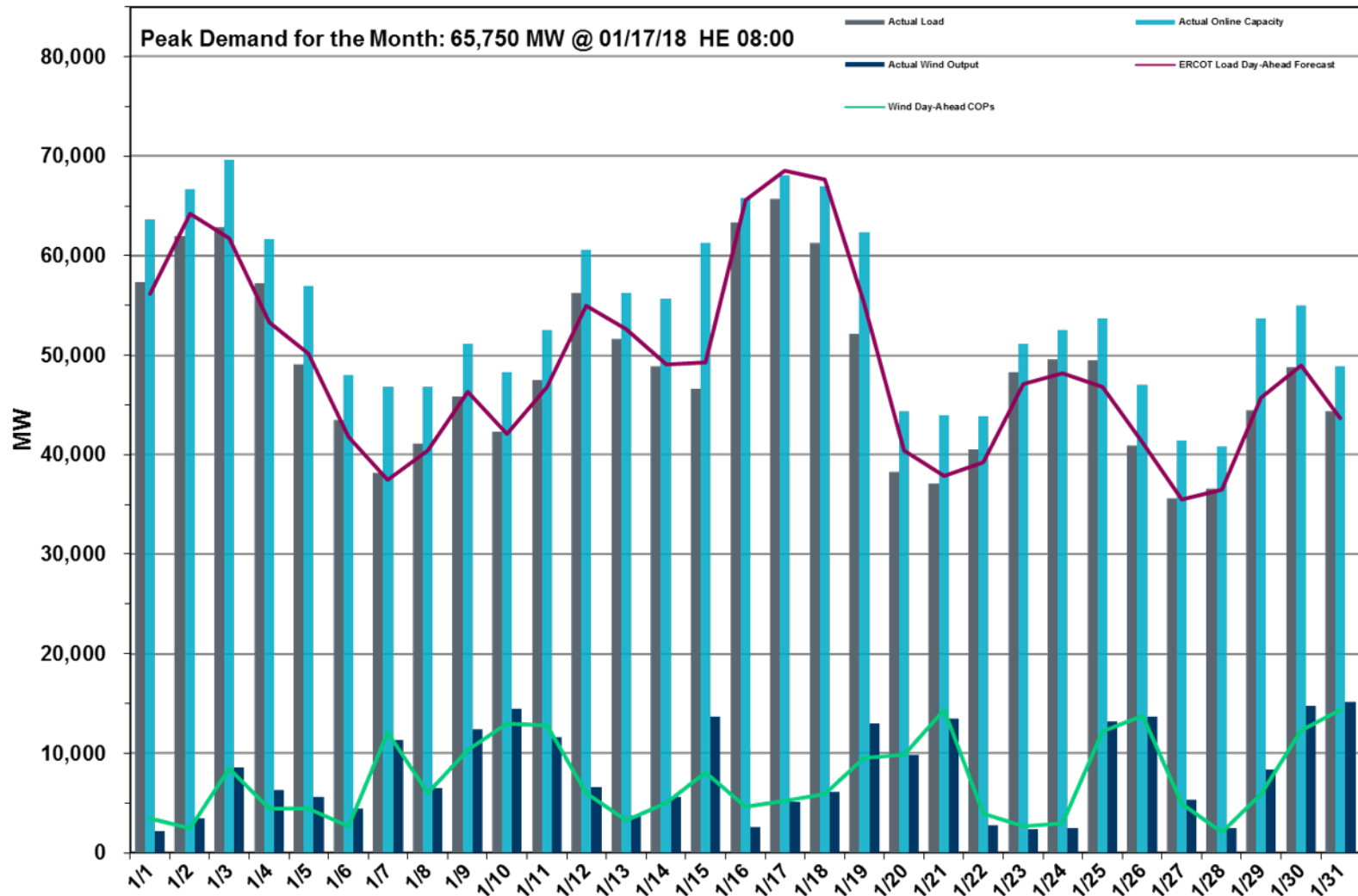
### Operations

- The preliminary Settlements hourly peak demand of 65,750\* MW on January 17 was lower than the day-ahead mid-term load forecast peak of 68,542 MW for same operating hour.
  - The operational instantaneous peak demand was 66,065 MW (telemetry).
- Day-ahead load forecast error for January was 3.37%
- ERCOT issued 7 notifications:
  - One OCN issued due to potential extreme cold weather system approaching ERCOT region
  - One Advisory issued due to potential extreme cold weather system approaching ERCOT region
  - One Watch issued due to potential extreme cold weather system approaching ERCOT region
  - One Watch issued due to freezing precipitation in the San Antonio and Houston areas
  - One Advisory issued due to loss of ERCOT's RTCA and State Estimator for greater than 15 minutes
  - One Watch issued due to DRUC not completing by 1800
  - One Watch issued due to Eagle Pass DC Tie Outage extension

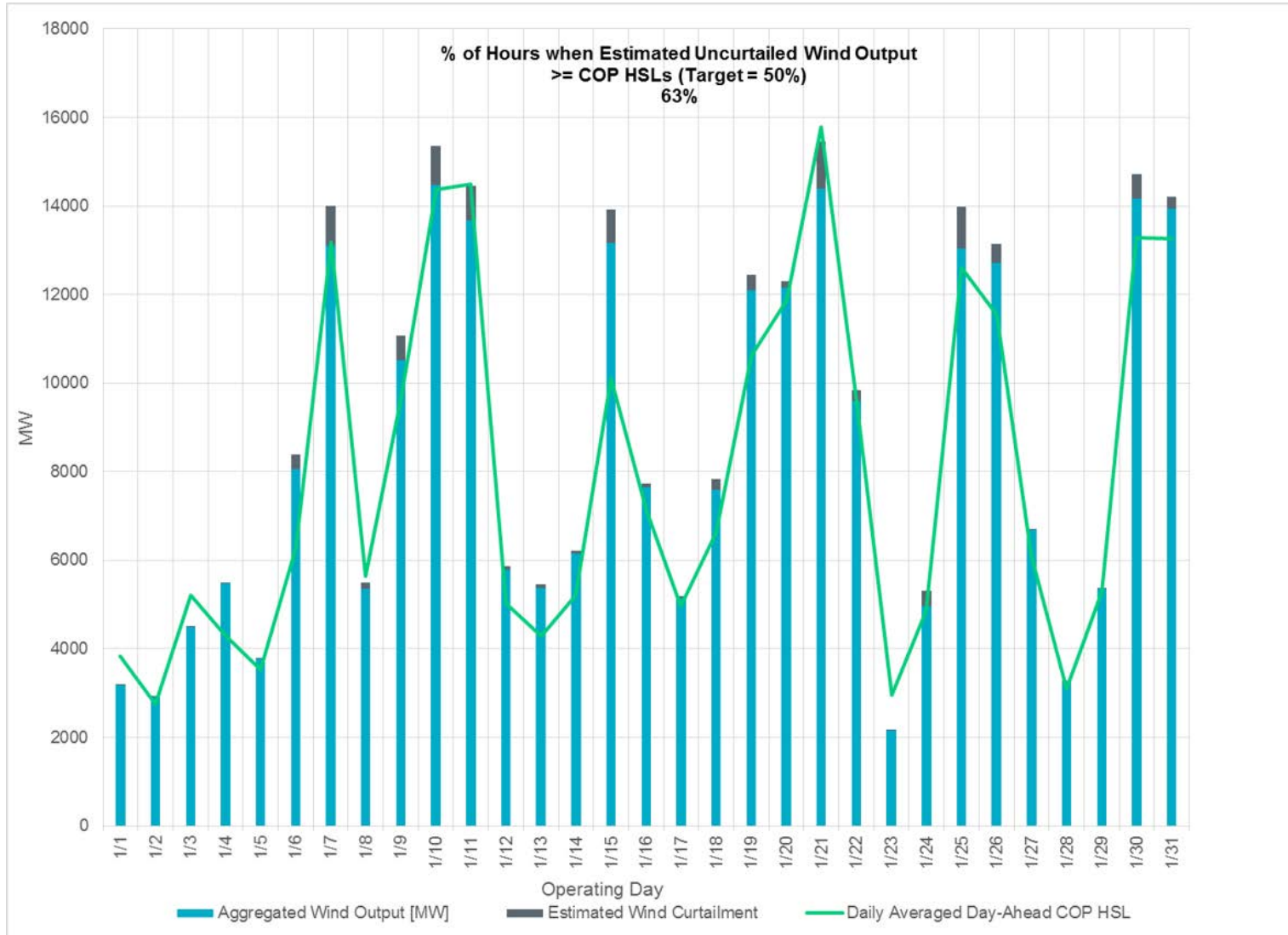
### Planning Activities

- 335 active generation interconnection requests totaling 66,927 MW, including 31,420 MW of wind generation, as of January 31, 2018. Two fewer requests and a decrease of 1,393 MW from December 31, 2017.
- 20,693 MW wind capacity in commercial operations as of February 1, 2018.

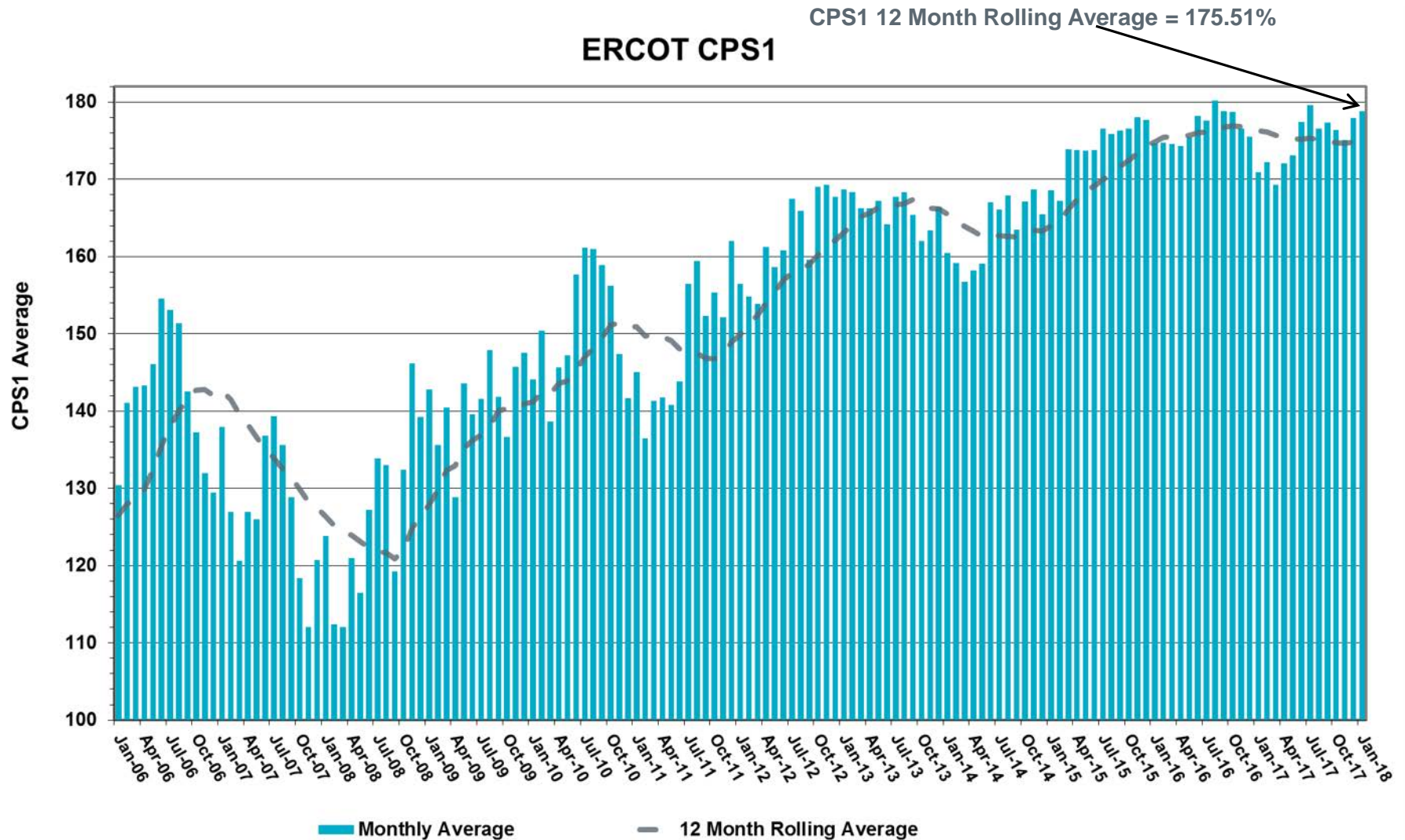
# Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-Line Capacity at Peak – January 2018



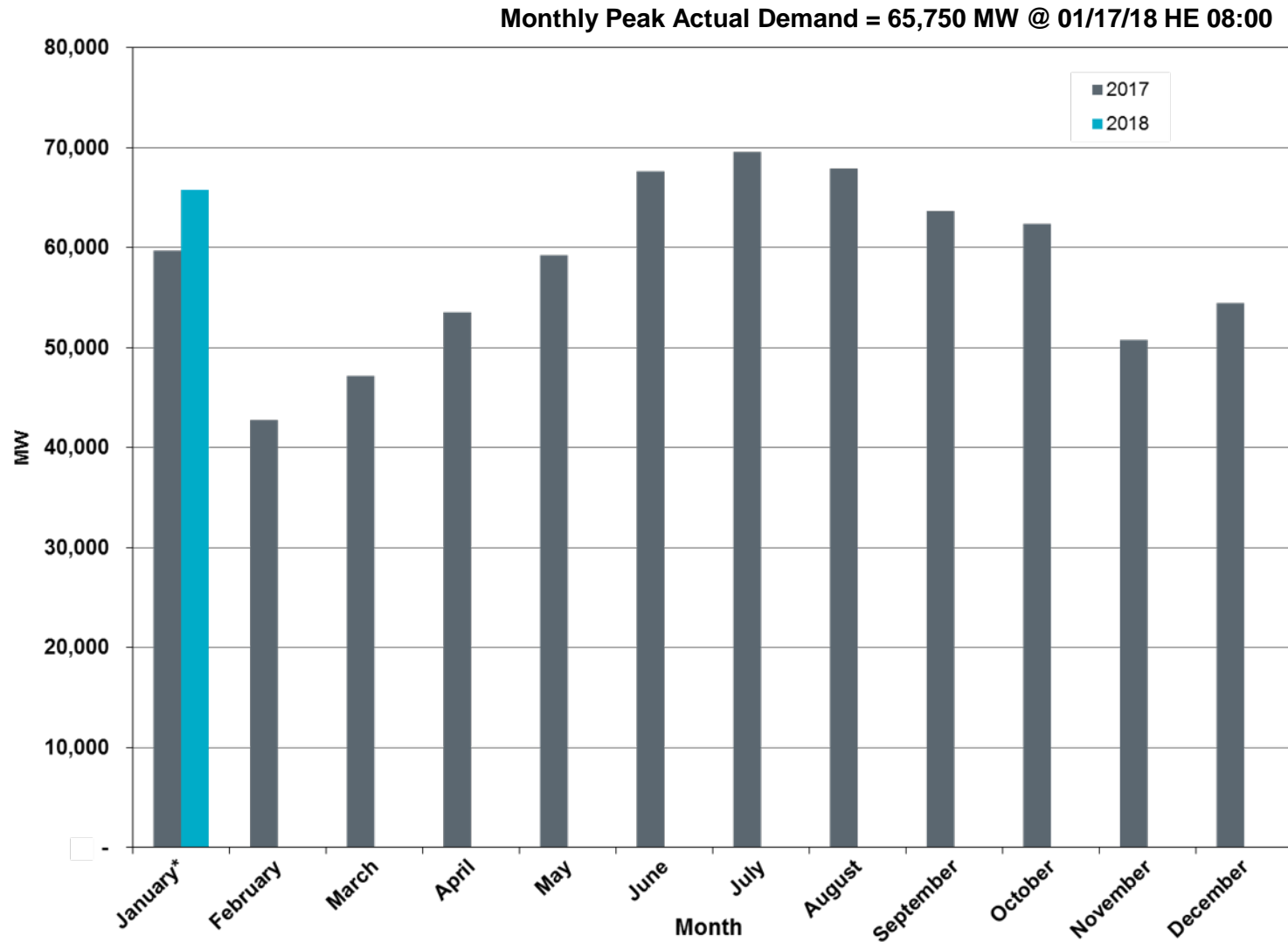
# Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – January 2018



# ERCOT's CPS1 Monthly Performance – January 2018

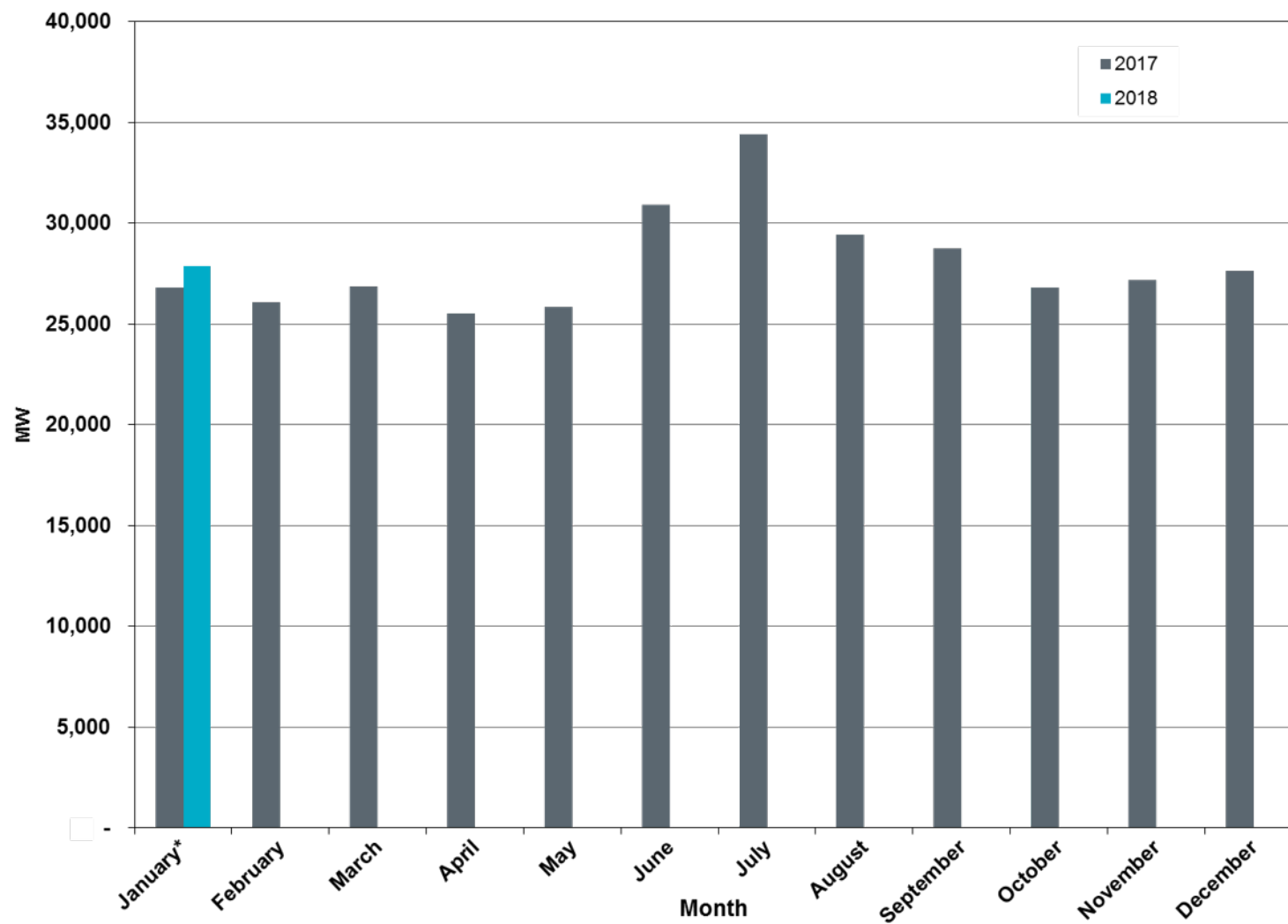


## Monthly Peak Actual Demand – January 2018



\*Preliminary for January of the current year

## Monthly Minimum Actual 15-Minute Demand – January 2018



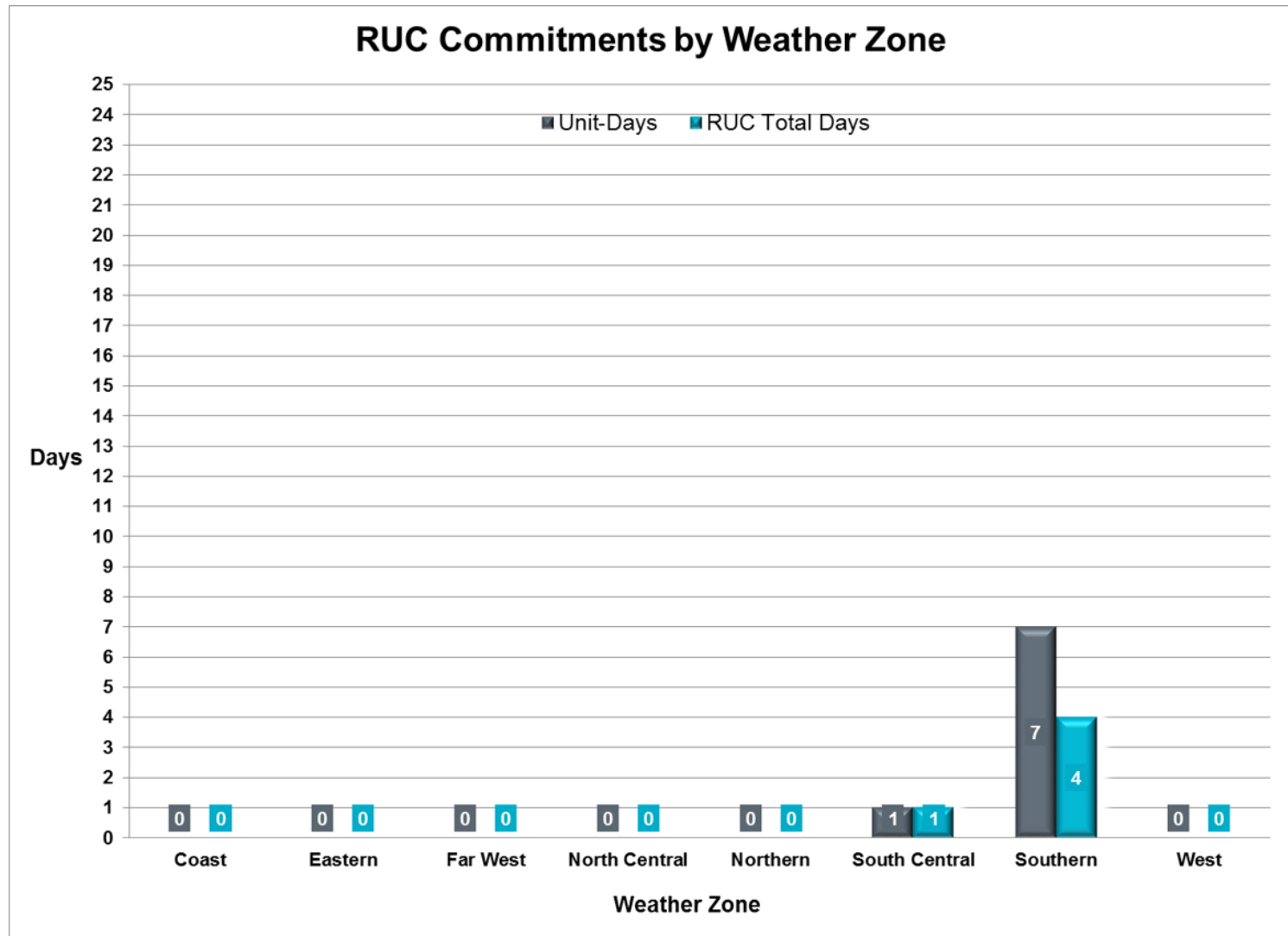
\*Preliminary for January of the current year

## Day-Ahead Load Forecast Performance – January 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	January 2018 MAPE	
<b>Average Annual MAPE</b>	2.86	2.62	2.55	3.37	3.37	
<b>Lowest Monthly MAPE</b>	1.89	1.94	1.69	3.37	<b>Lowest Daily MAPE</b>	0.92 Jan 30
<b>Highest Monthly MAPE</b>	3.81	3.86	4.07	3.37	<b>Highest Daily MAPE</b>	8.42 Jan 18

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



## Generic Transmission Constraints (GTCs) – January 2018

GTCs	Jan-17 Days GTCs	Nov-17 Days GTCs	Dec-17 Days GTCs	Jan-18 Days GTCs	Last 12 Months Total Days (Feb 17 – Jan 18)
North – Houston	1	2	0	0	7
Valley Import	0	0	1	5	15
Panhandle	17	25	22	24	269
Red Tap	0	0	0	0	0
North Edinburg – Lobo	-	0	0	0	0
Nelson Sharpe – Rio Hondo	-	0	11	11	22
East Texas	-	16	0	0	16

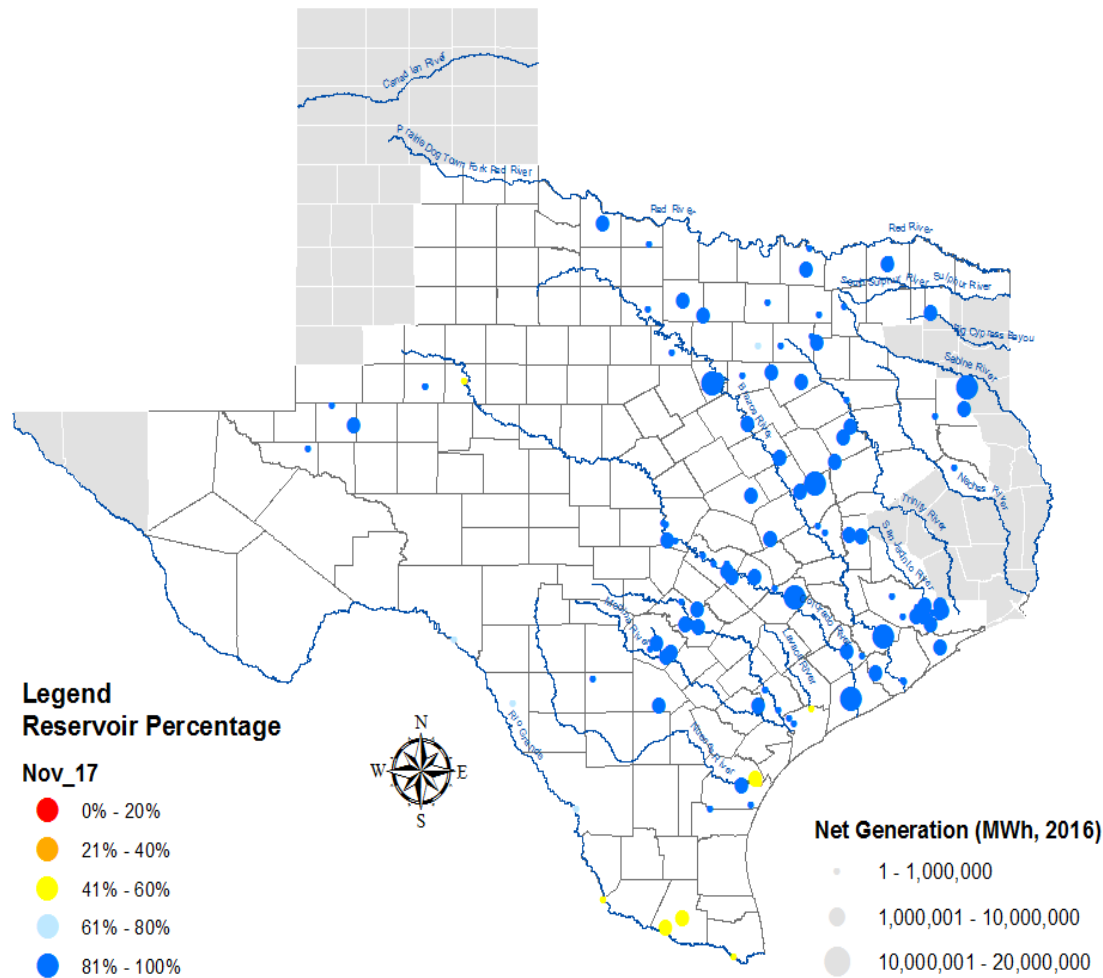
**GTC:** A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security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

- One OCN issued due to potential extreme cold weather system approaching ERCOT region
  - Issued 1/12
- One Advisory issued due to potential extreme cold weather system approaching ERCOT region
  - Issued 1/13
- One Watch issued due to potential extreme cold weather system approaching ERCOT region
  - Issued 1/14
- One Watch issued due to freezing precipitation in the San Antonio and Houston areas
  - Issued 1/16
- One Advisory issued due to loss of ERCOT's RTCA and State Estimator for greater than 15 minutes
  - Issued 1/18
- One Watch issued due to DRUC not completing by 1800
  - Issued 1/22
- One Watch issued due to Eagle Pass DC Tie Outage extension
  - Issued 1/25

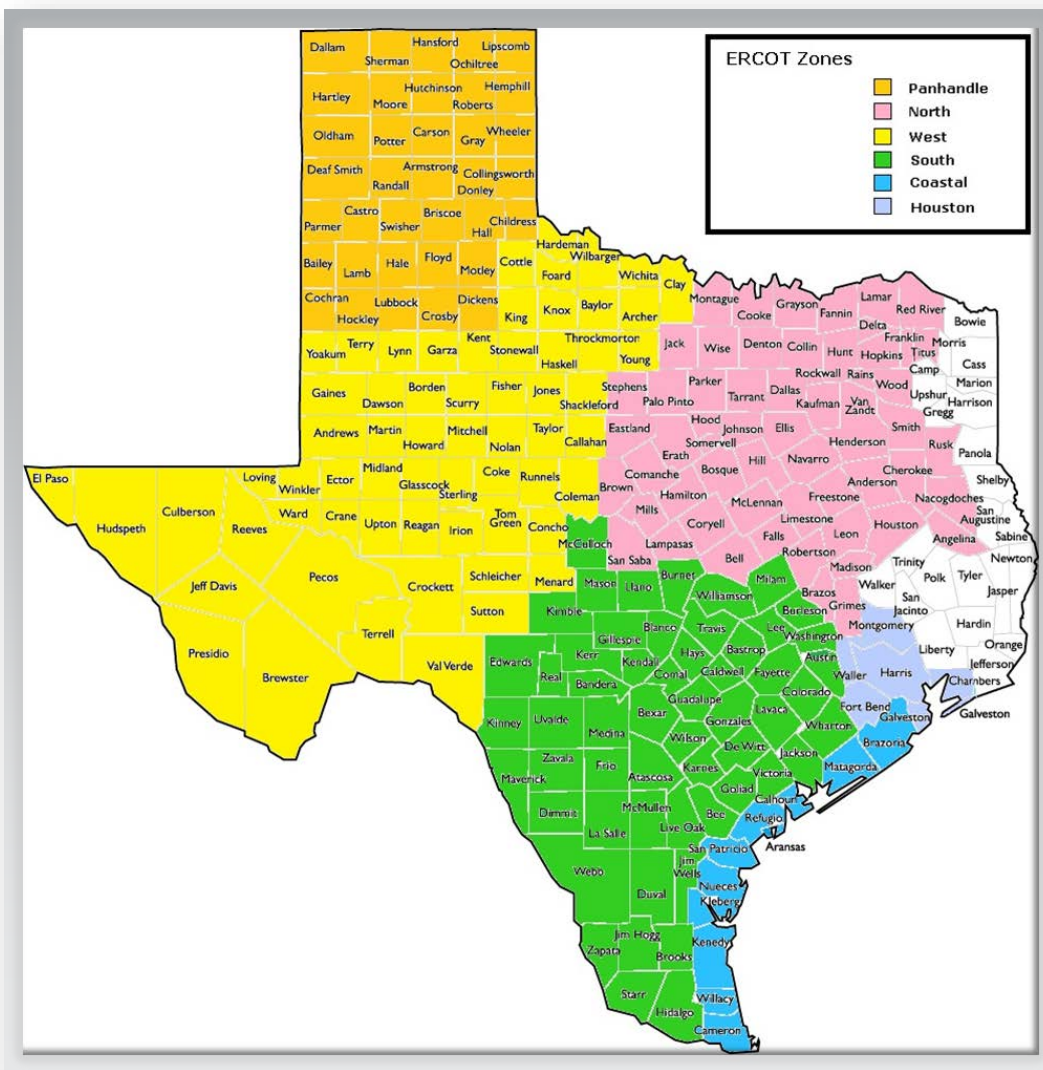
# Lake Levels Update – February 1, 2018



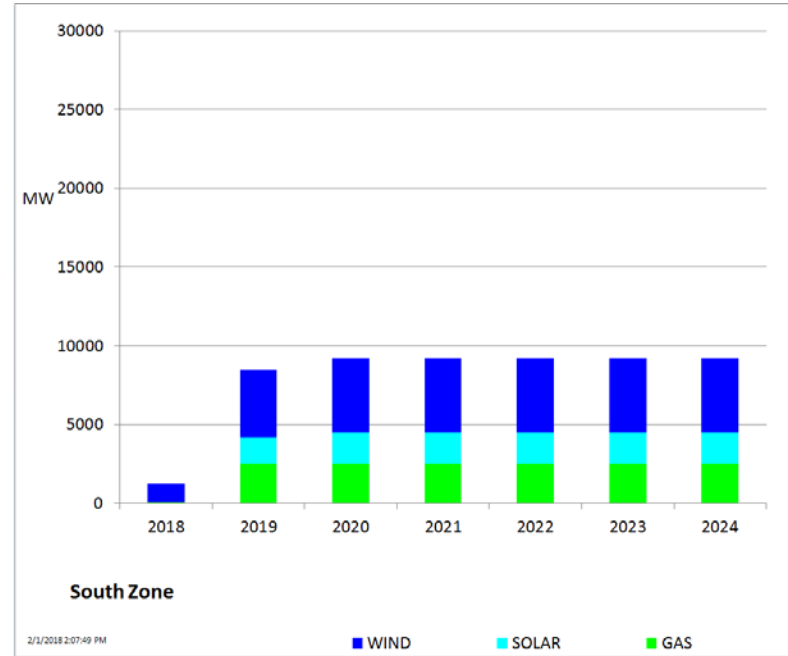
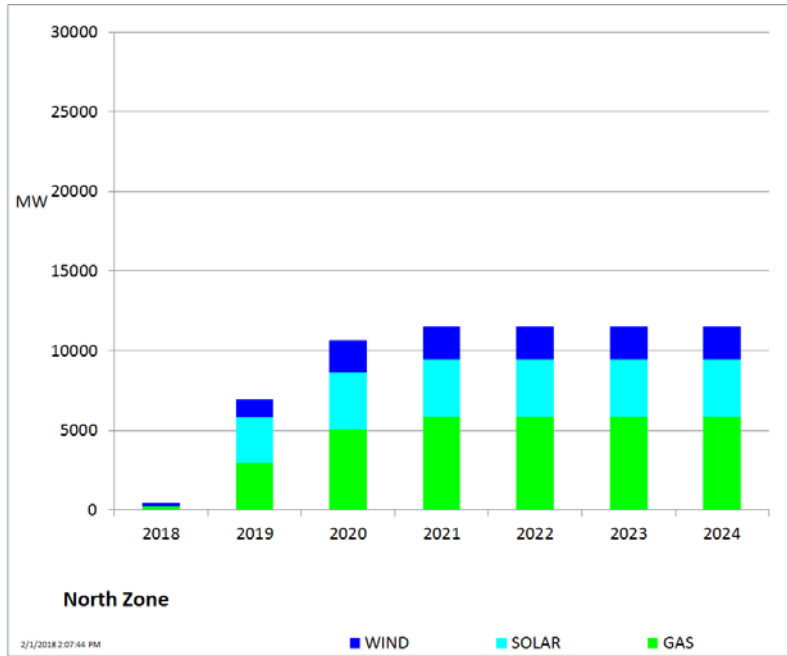
## Planning Summary – January 2018

- ERCOT is currently tracking 335 active generation interconnection requests totaling 66,927 MW. This includes 31,420 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$272.3 million.
- Transmission Projects endorsed in 2017 total \$890 million.
- All projects (in engineering, routing, licensing, and construction) total approximately \$7.07 billion (as of October 15, 2017).
- Transmission Projects energized in 2017 total about \$805.4 million (as of October 15, 2017).

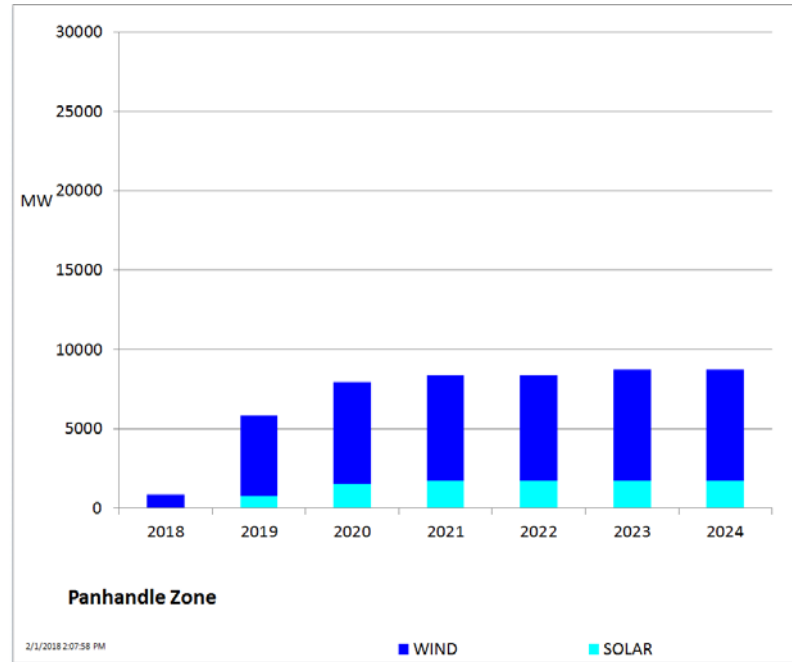
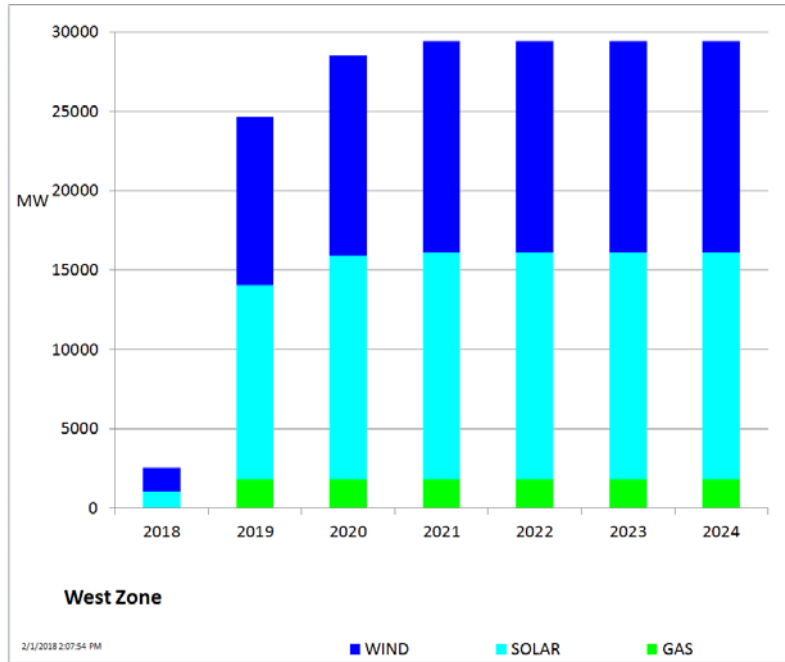
## Mapping of Counties to ERCOT Zones – January 2018



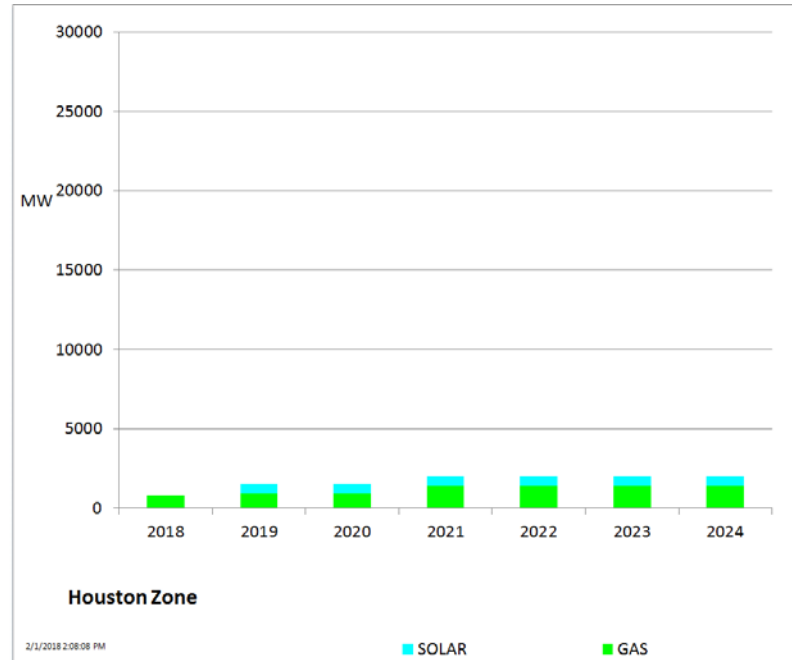
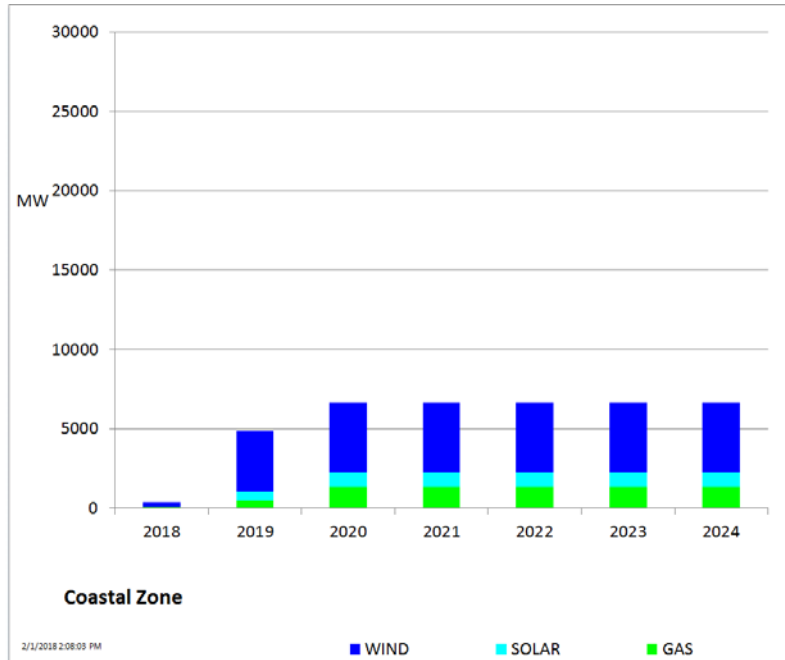
# Cumulative MW Capacity of Interconnection Requests by Zone – January 2018



# Cumulative MW Capacity of Interconnection Requests by Zone – January 2018

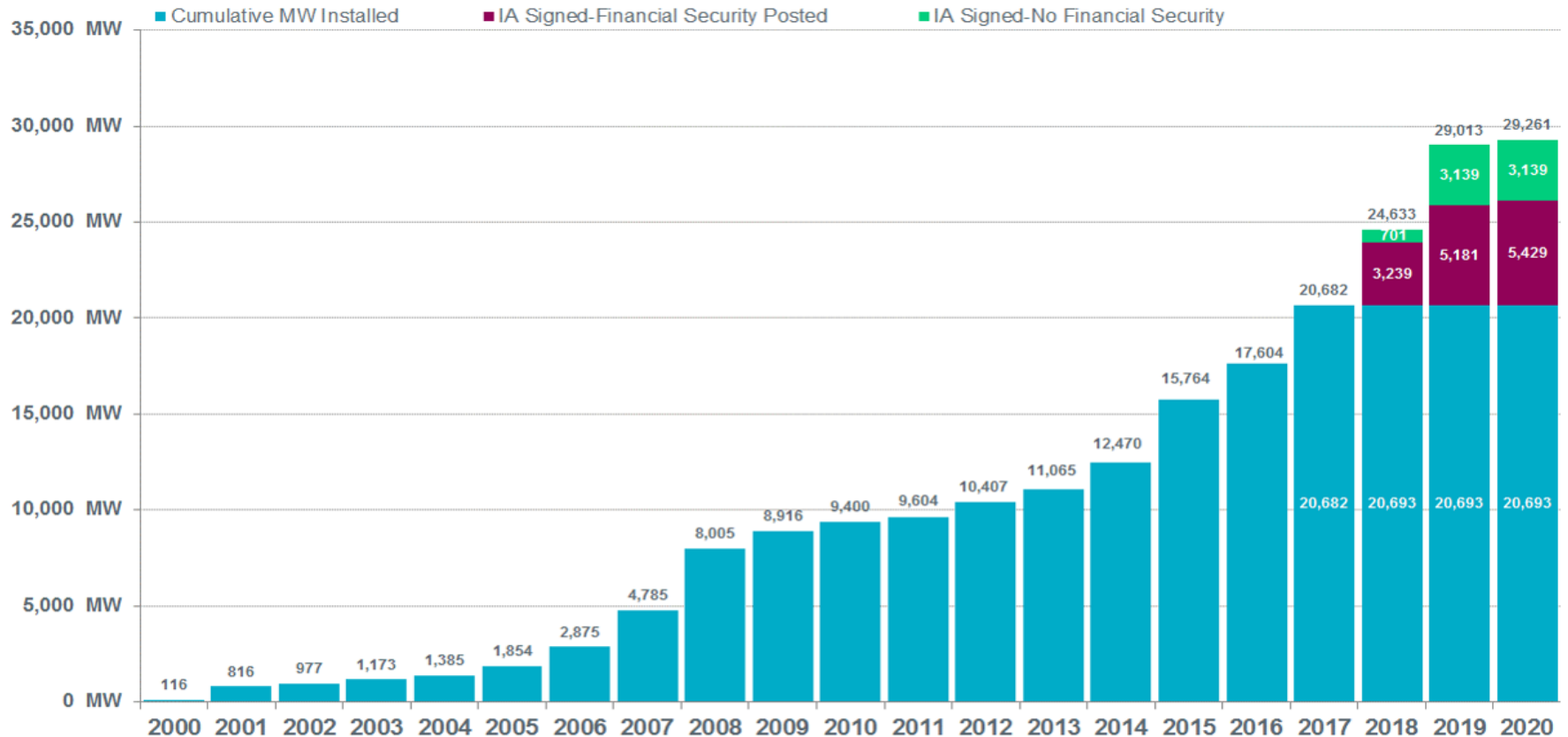


# Cumulative MW Capacity of Interconnection Requests by Zone – January 2018



# Wind Generation – January 2018

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

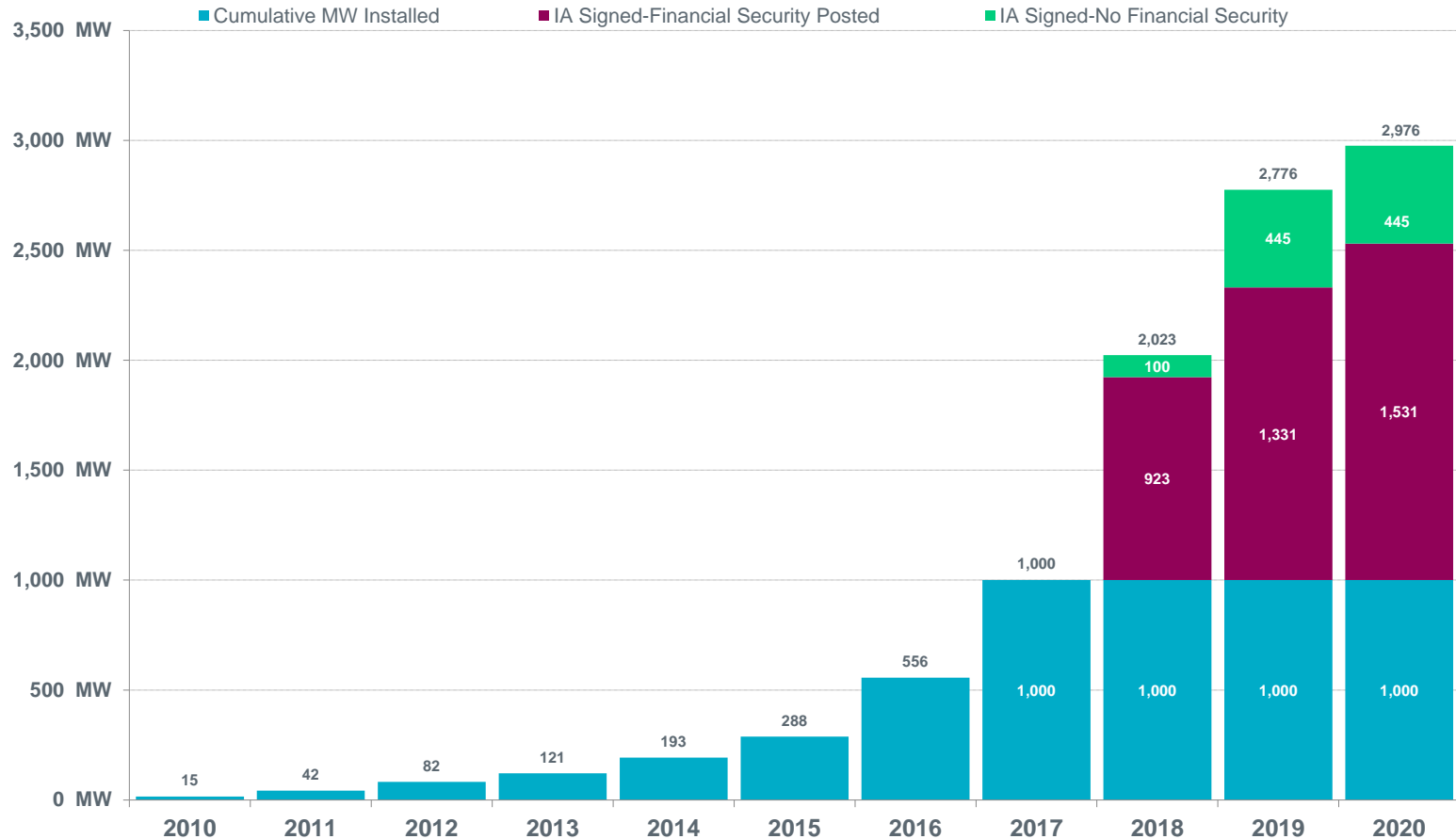


Notes:

- 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 – January 2018

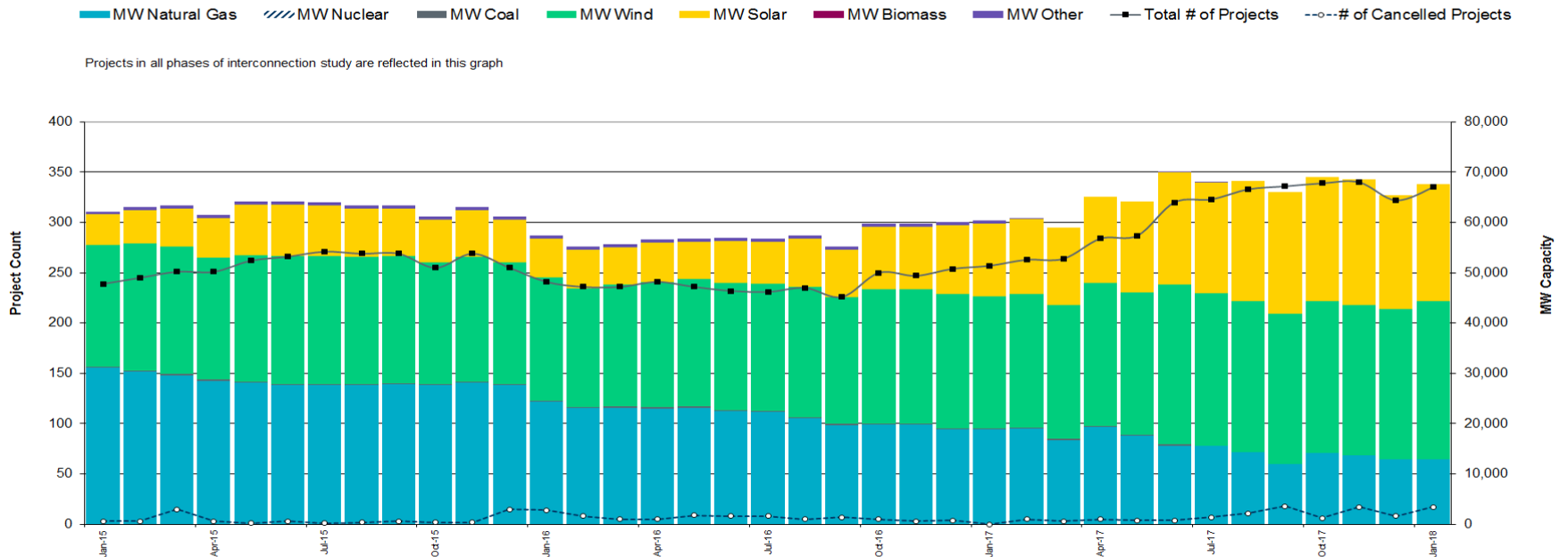
ERCOT Solar Additions by Year (as of January 31, 2018)



**Notes:**

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- 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.

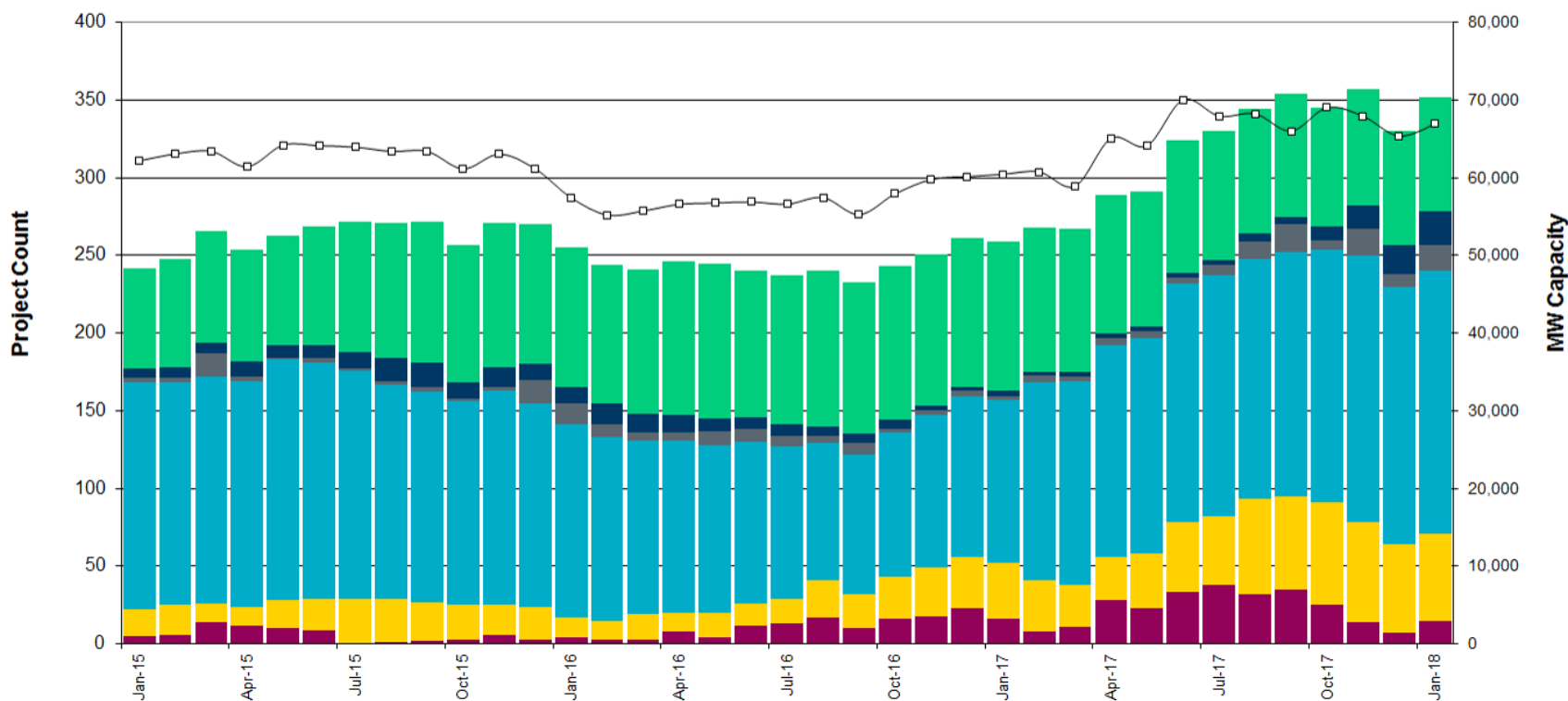
# Generation Interconnection Activity by Fuel – January 2018



# Generation Interconnection Activity by Project Phase – January 2018

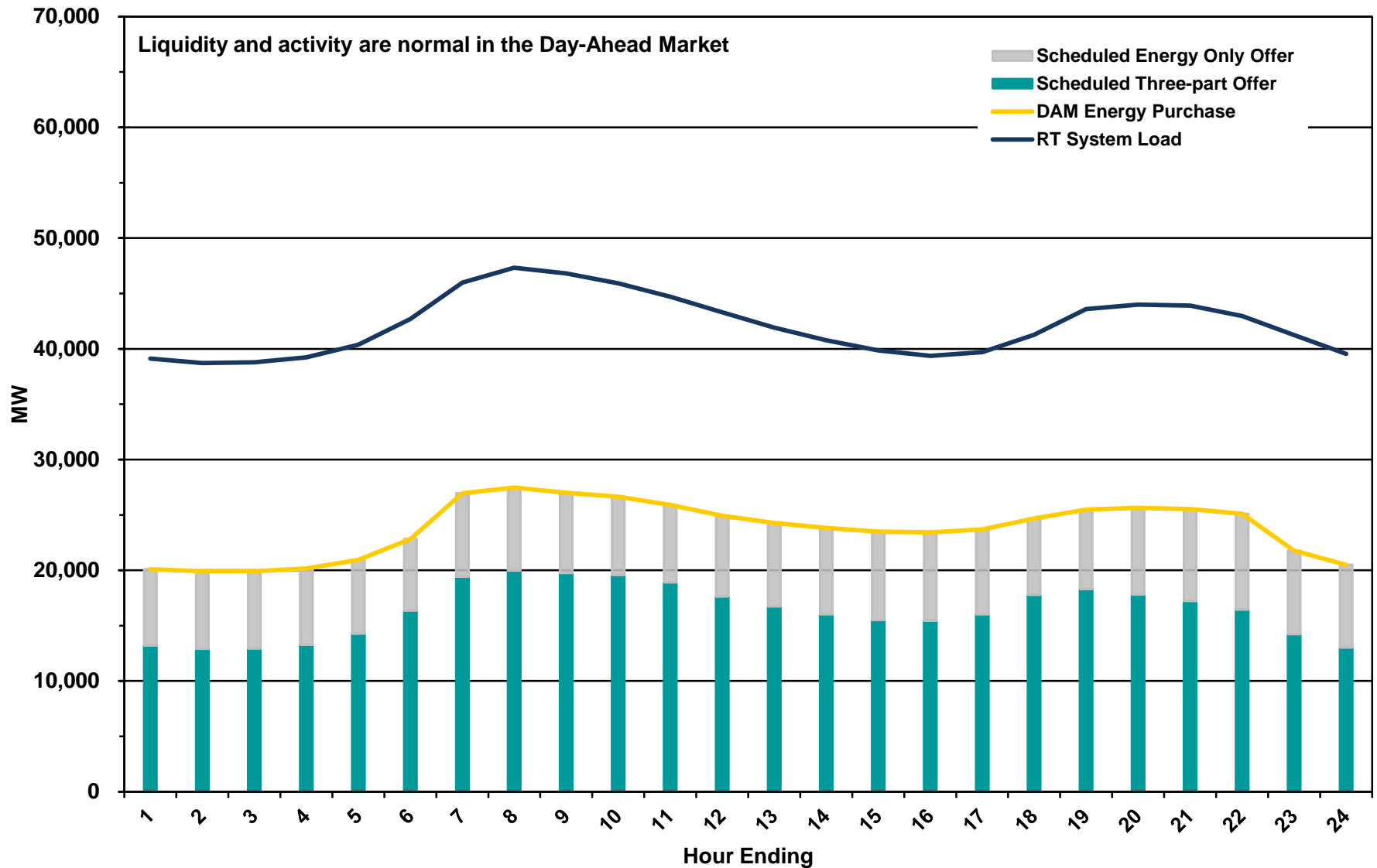
■ # Signed Interconnect Agreement    ■ # Completed Full Study    ■ # Projects Cancelled    ■ # in Full Study  
■ # Screening Study Complete    ■ # Initial Screening Study    —□— MW Capacity Under Study \*

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

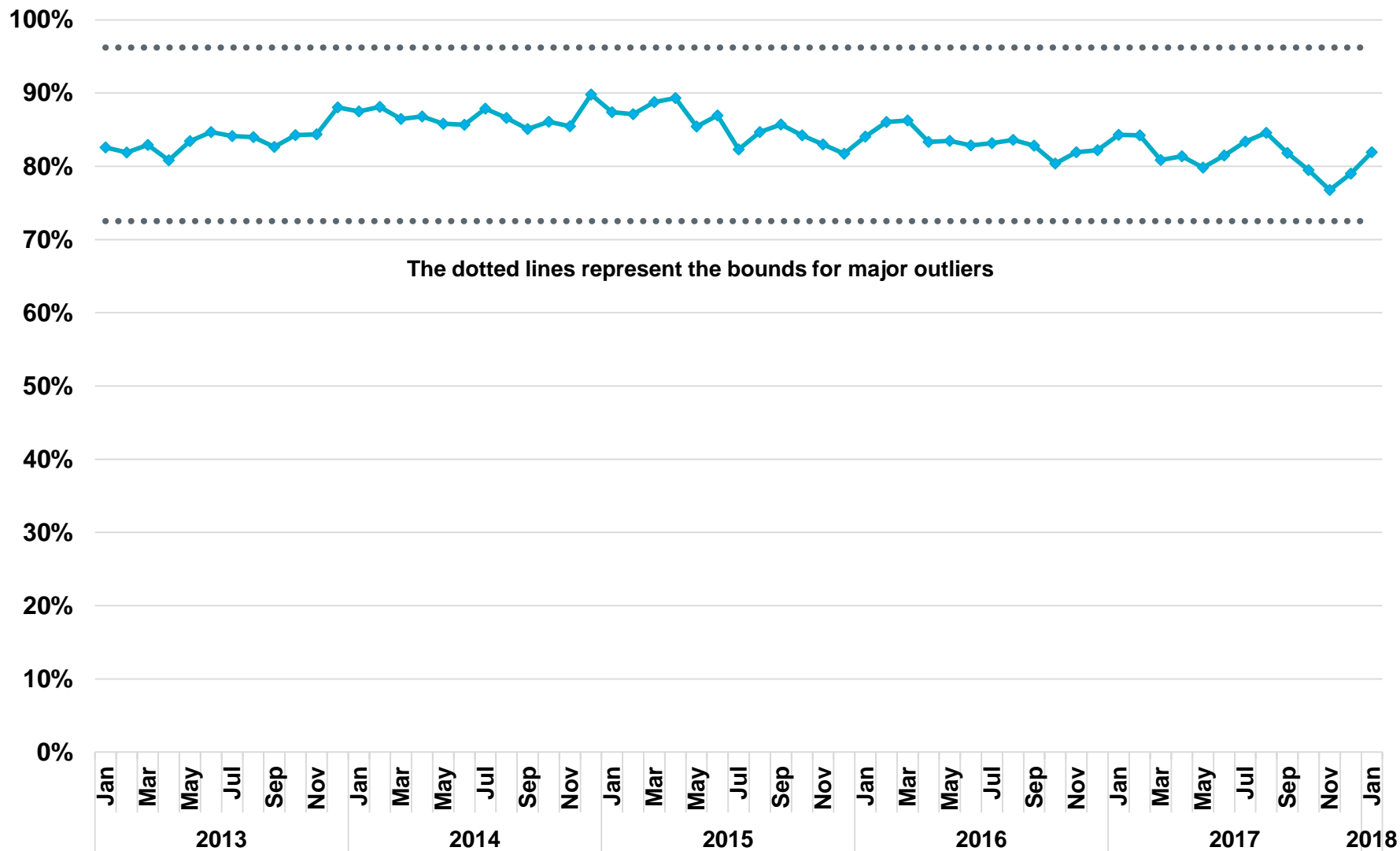


# Market Operations

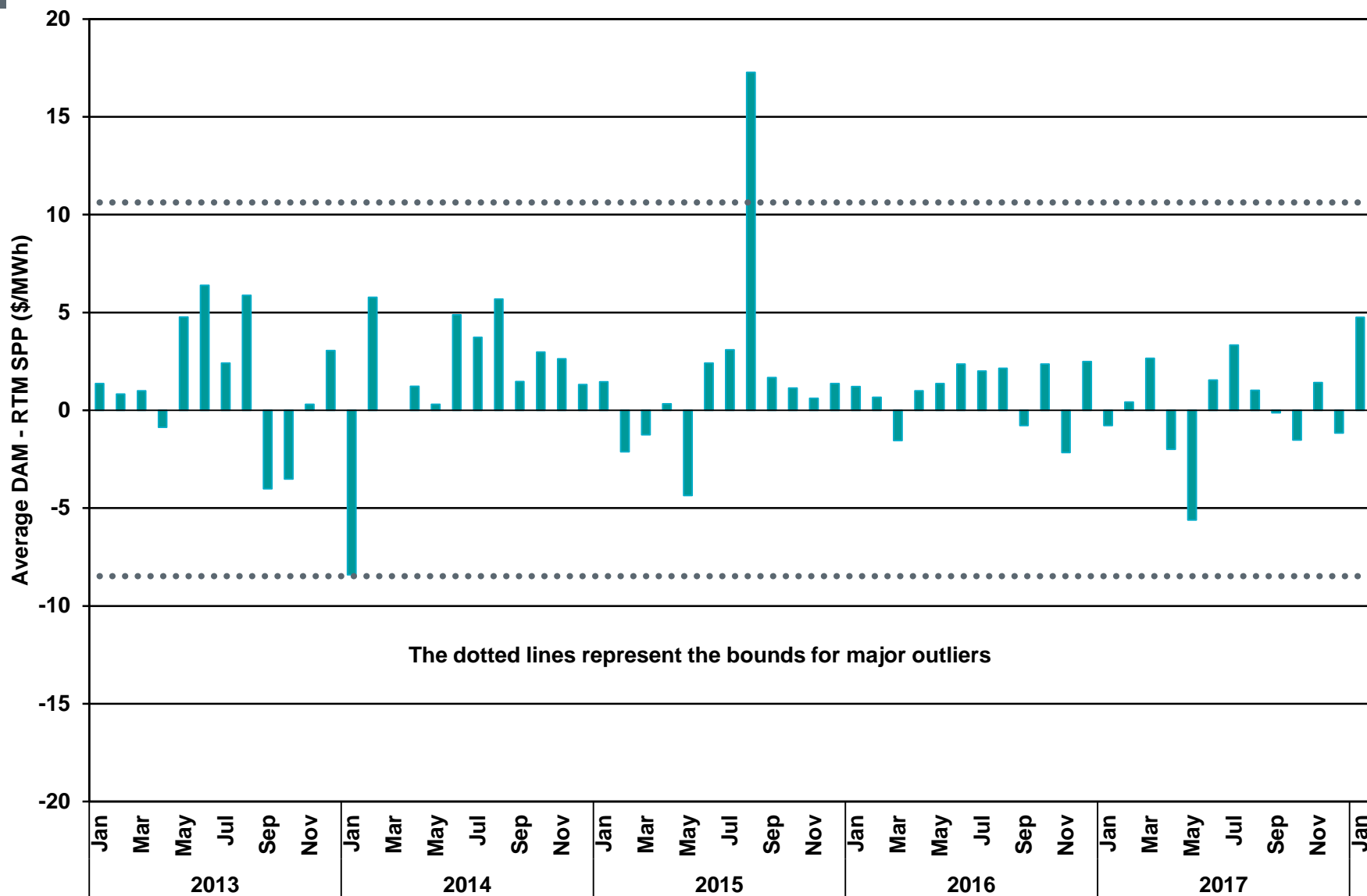
## Day-Ahead Schedule (Hourly Average) – January 2018



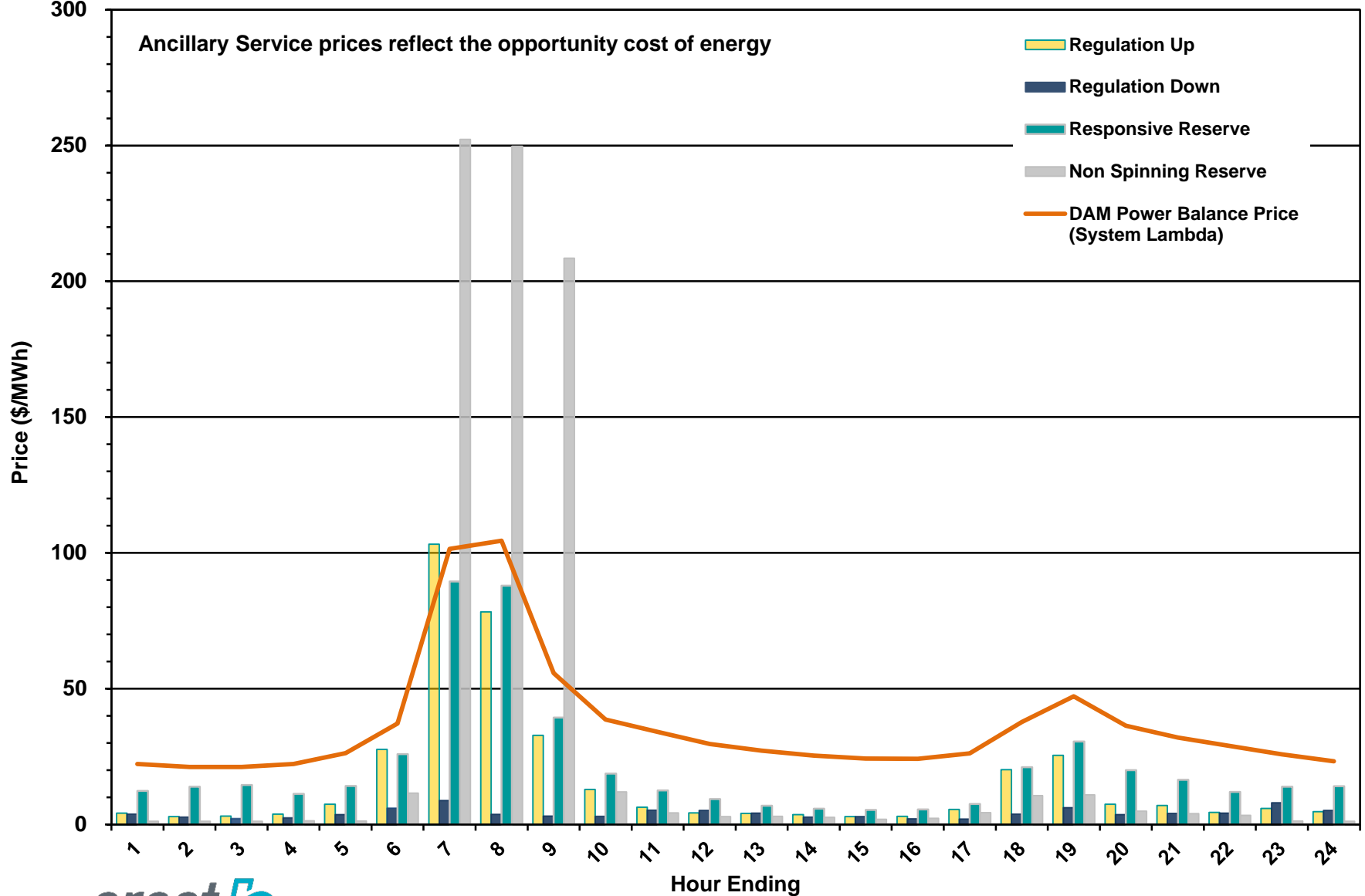
## Percentage of Real-Time Load Transacted in the DAM – January 2018



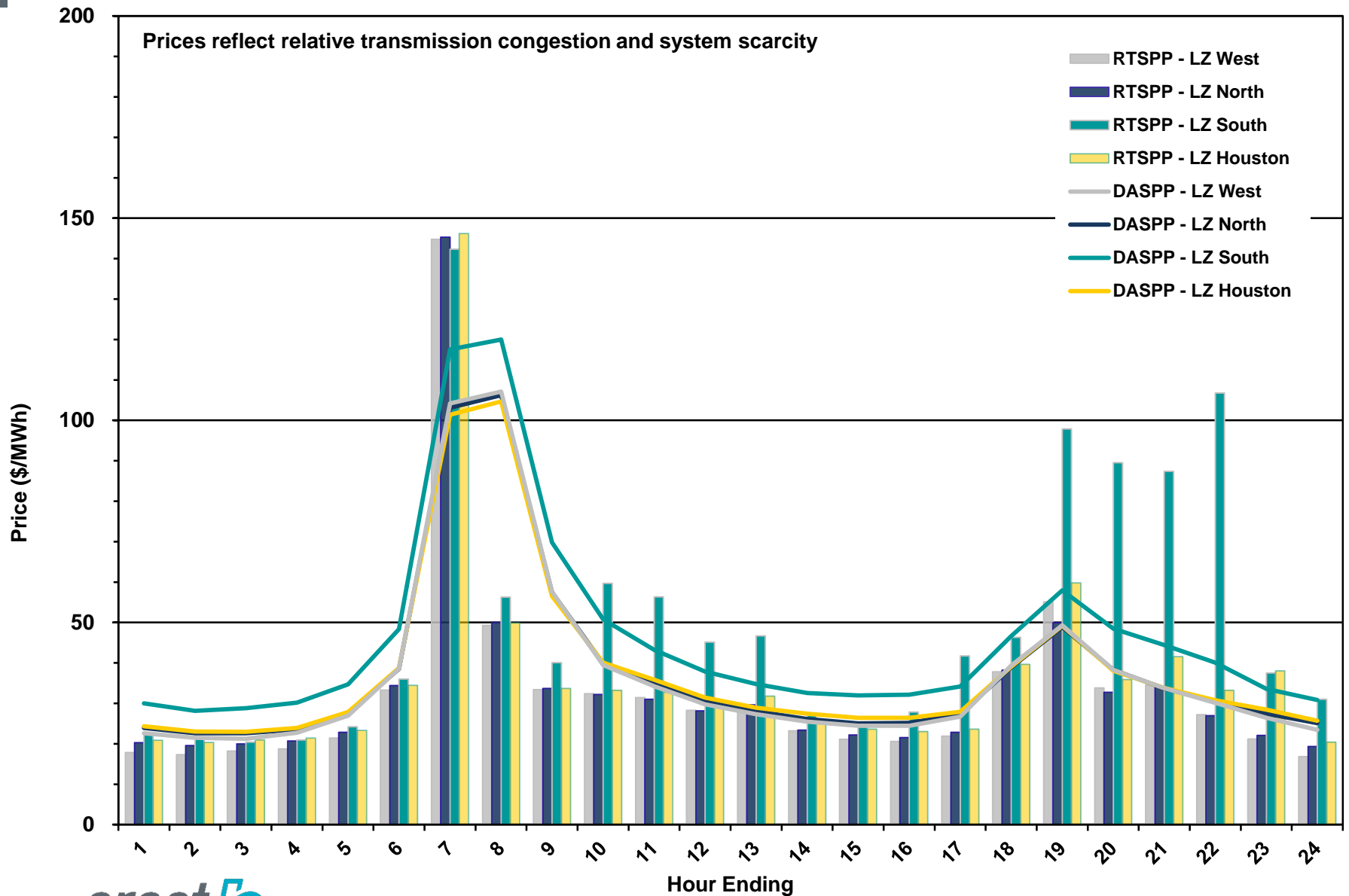
## DAM and RTM Price Convergence – January 2018



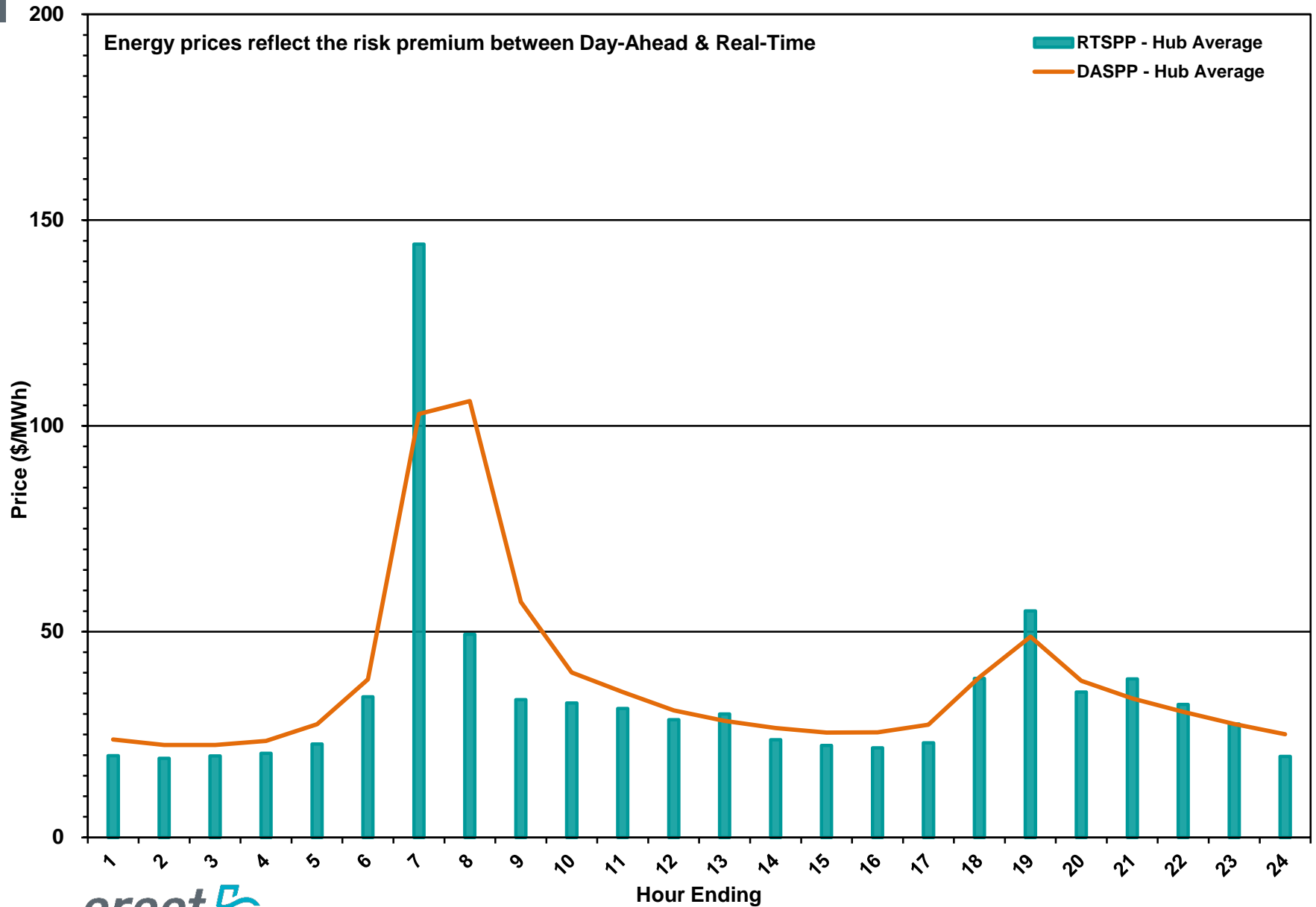
# Day-Ahead Electricity and Ancillary Service Prices (Hourly Average) – January 2018



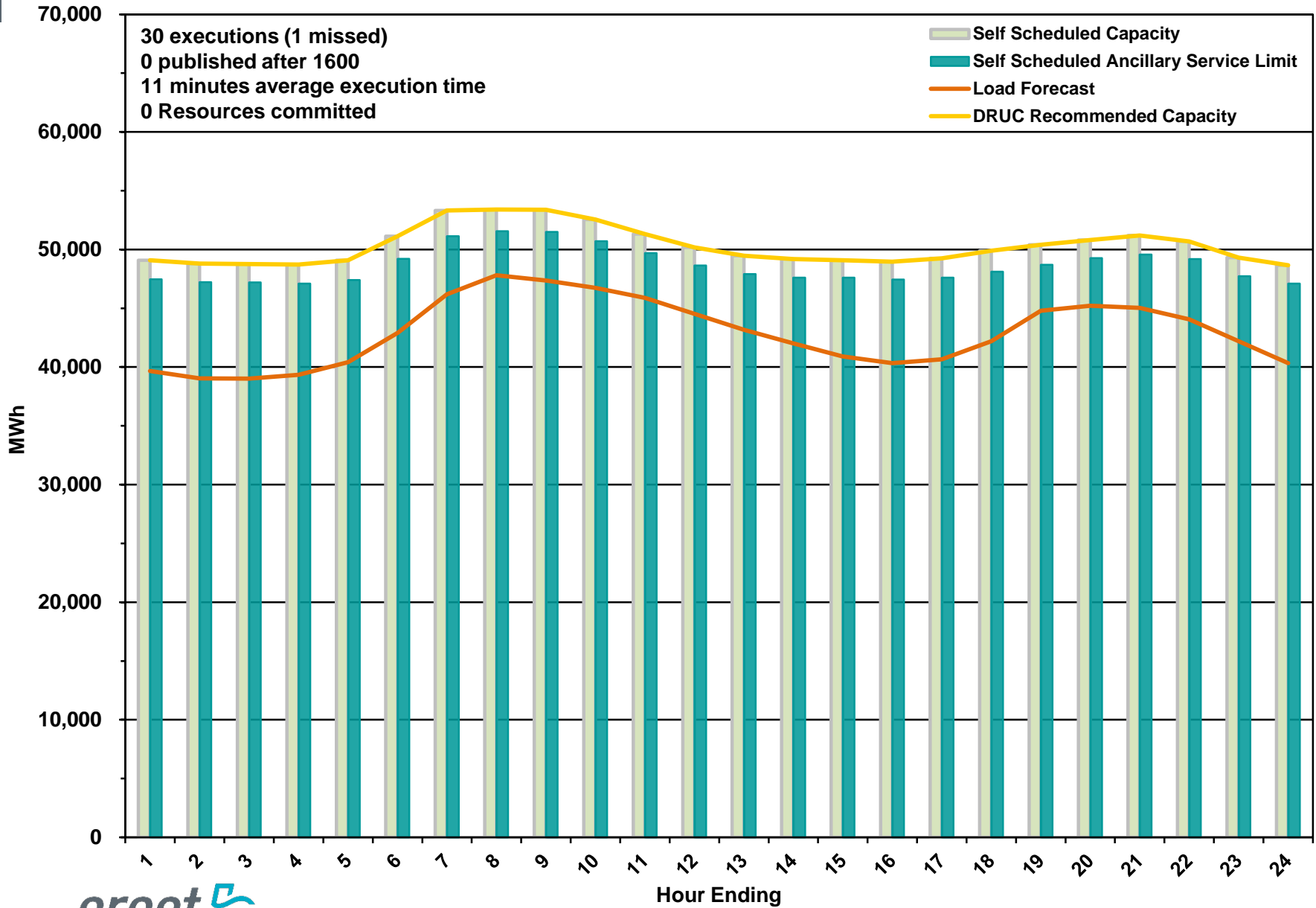
# Day-Ahead vs Real-Time Load Zone SPP (Hourly Average) – January 2018



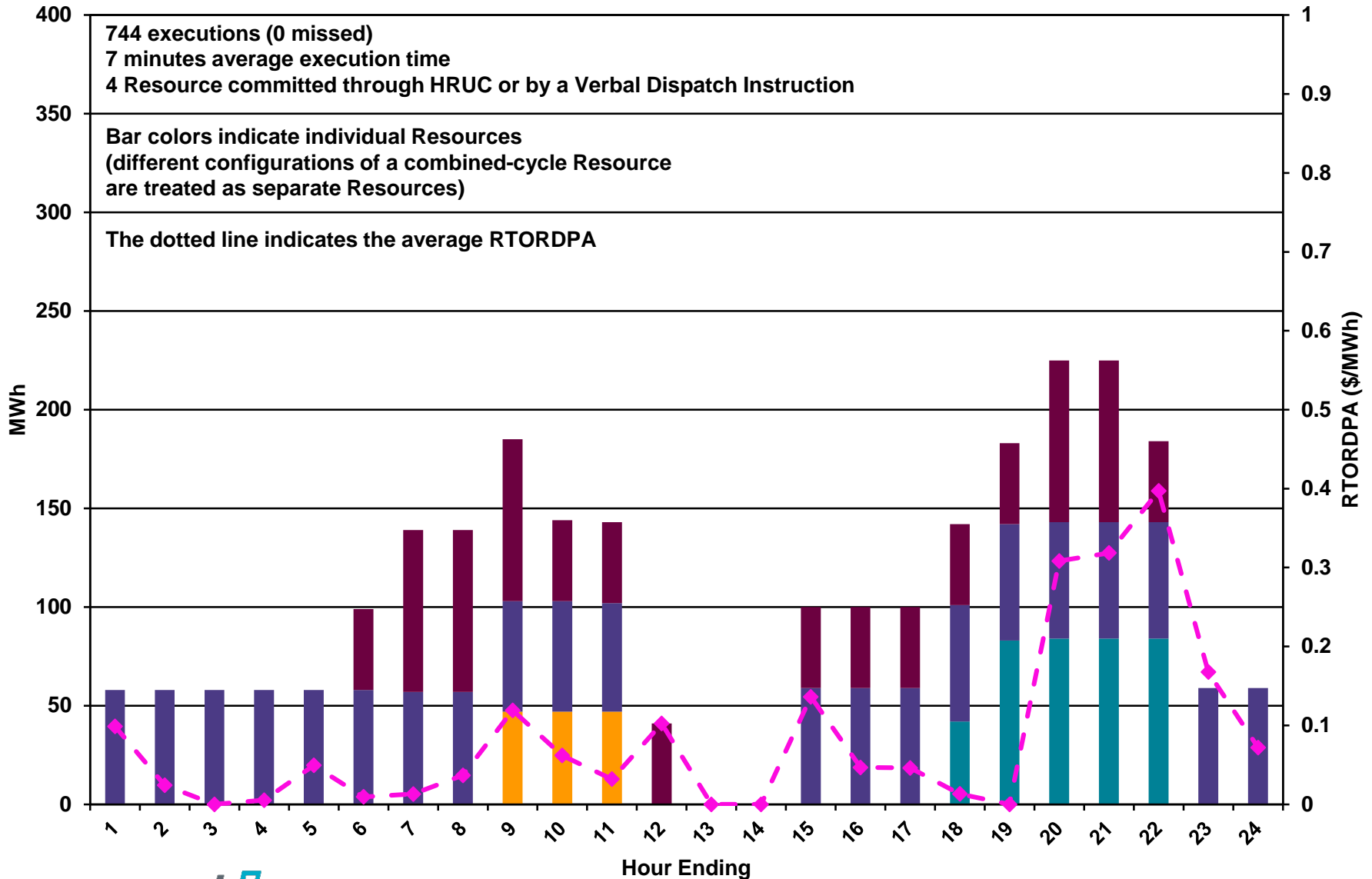
# Day-Ahead vs Real-Time Hub Average SPP (Hourly Average) – January 2018



# DRUC Monthly Summary (Hourly Average) – January 2018



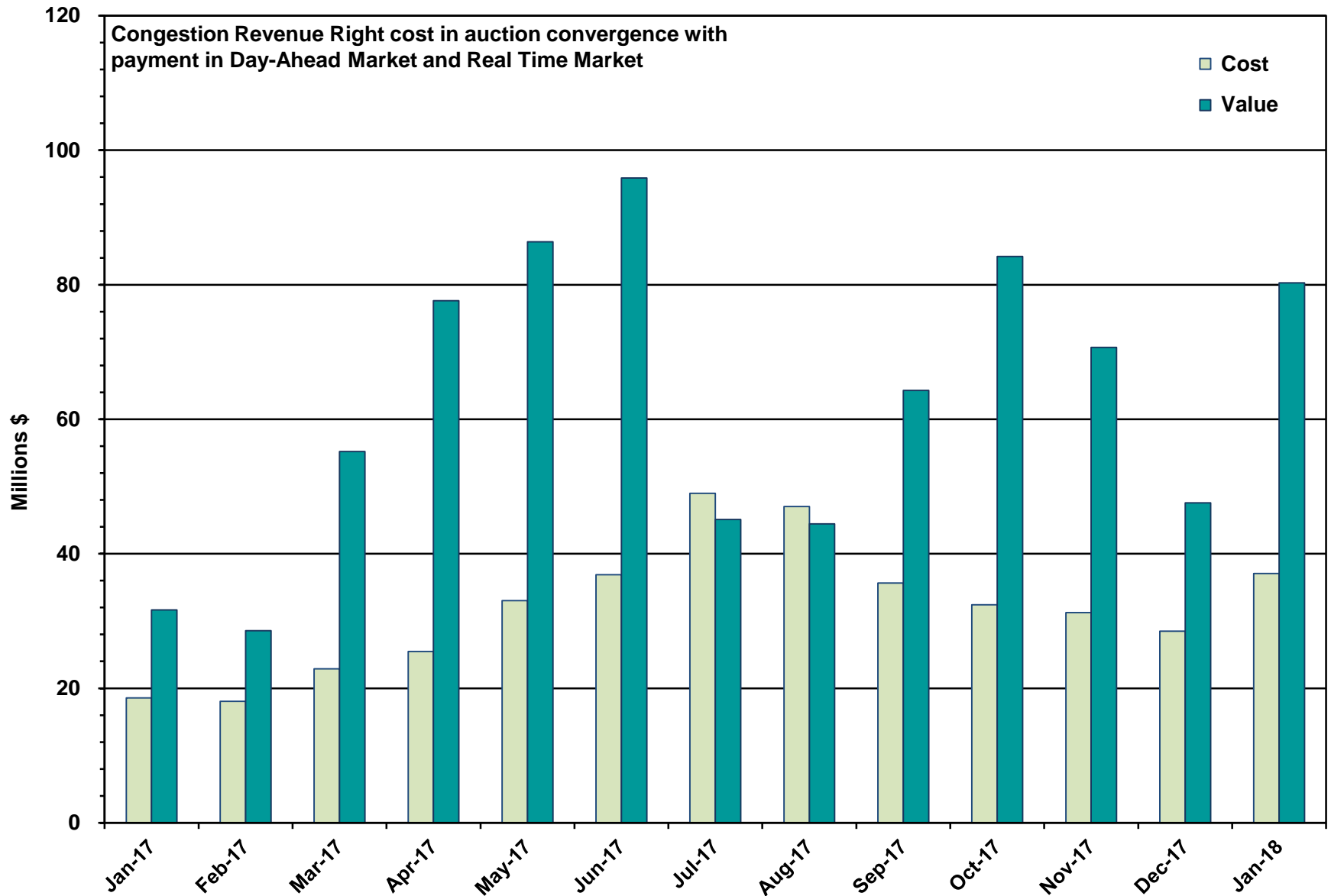
# HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) (Hourly Average) – January 2018



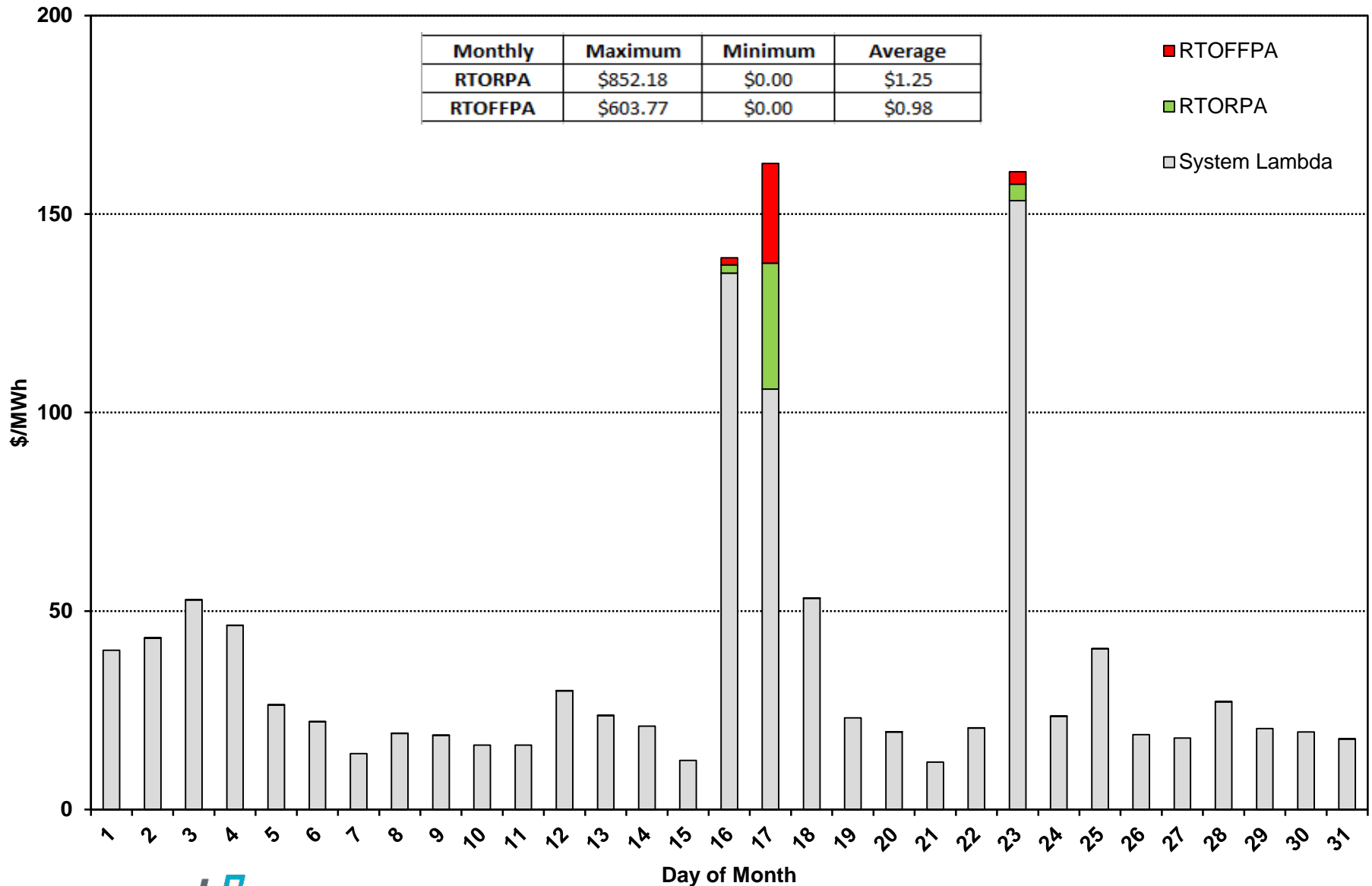
## Non-Spinning Reserve Service Deployment – January 2018

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
1/23/2018 6:43:07 AM	1/23/2018 7:29:59 AM	0.78	1005	Significant load ramp and projected need for Ancillary Service capacity

## CRR Price Convergence – January 2018



# Daily Average System Lambda and ORDC Price Adders – January 2018



## ERS Procurement for October 2017 – January 2018

	TP1	TP2	TP3	TP4	TP5	TP6
Non Weather-Sensitive ERS-10 MW	203.909	215.019	212.619	207.967	203.656	193.926
Non Weather-Sensitive ERS-30 MW	631.590	676.206	659.791	652.997	628.695	561.303
Weather-Sensitive ERS-10 MW	0	0	0	0	0	0
Weather-Sensitive ERS-30 MW	5.300	0	3.700	5.300	0	0
Total MW Procured	840.799	891.225	876.110	866.264	832.351	755.229
Clearing Price	\$17.57	\$6.34	\$2.20	\$17.18	\$18.29	\$2.53

\*Weather-Sensitive Time Periods for Oct17Jan18 are TP1, TP3 and TP4.

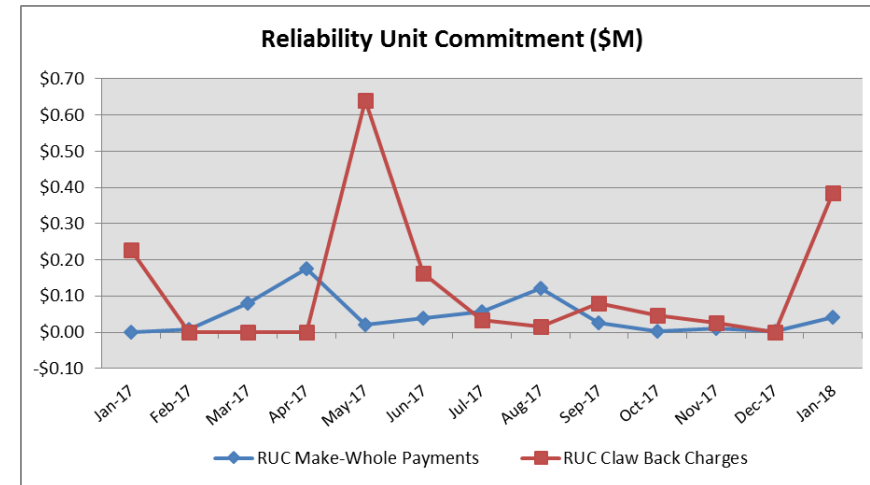
### Time Period

### 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 – January 2018

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.04)
RUC Clawback Charges	\$0.39
<b>RUC Commitment Settlement</b>	<b>\$0.35</b>
RUC Capacity Short Charges	\$0.04
RUC Make-Whole Uplift	\$0.00
<b>RUC Commitment Cost Allocation</b>	<b>\$0.04</b>
RUC Decommitment Payments	\$0.00



RUC Make-Whole Payments were \$0.04M in January 2018.  
RUC Clawback Charges were \$0.39M.

There was \$0.39M allocated directly to load in January 2018, compared to:

- \$0.00M in December 2017
- \$0.23M in January 2017

## Capacity Services – January 2018

Capacity Services	\$ in Millions
Regulation Up Service	\$4.93
Regulation Down Service	\$0.89
Responsive Reserve Service	\$35.06
Non-Spinning Reserve Service	\$46.88
Black Start Service	\$0.62
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
<b>Total Charges</b>	<b>\$88.38</b>

Capacity Services costs increased from last month and increased from January 2017.

January 2018 cost was \$88.38M, compared to:

- A charge of \$14.82M in December 2017
- A charge of \$27.77M in January 2017

## Energy Settlement – January 2018

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$772.79
Point to Point Obligation Purchases	\$65.43
Energy Sales	(\$744.86)
Day-Ahead Congestion Rent	\$93.36
Day-Ahead Market Make-Whole Payments	(\$0.30)

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

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$596.31)
Energy Imbalance at a Load Zone	\$1,054.73
Energy Imbalance at a Hub	(\$341.17)
Real Time Congestion from Self Schedules	(\$0.73)
Block Load Transfers and DC Ties	(\$8.32)
Impact to Revenue Neutrality	\$108.20
Emergency Energy Payments	(\$0.16)
Base Point Deviation Charges	\$0.51
Real-Time Metered Generation (MWh in millions)	31.23

## Congestion Revenue Rights (CRR) – January 2018

	\$ in Millions
Annual Auction	(\$29.29)
Monthly Auction	(\$7.78)
<b>Total Auction Revenue</b>	<b>(\$37.07)</b>
Day-Ahead CRR Settlement	(\$80.27)
Day-Ahead CRR Short-Charges	\$0.71
Day-Ahead CRR Short-Charges Refunded	(\$0.71)
Real-Time CRR Settlement	\$0.00
Real-Time CRR Short-Charges	\$0.00
Real-Time CRR Short-Charges Refunded	\$0.00
<b>Total CRR Funding</b>	<b>(\$80.27)</b>
Day-Ahead Point to Point Obligations Settlement	\$65.43
Real-Time Point to Point Obligation Settlement	(\$124.77)
<b>Net Point to Point Obligation Settlement</b>	<b>(\$59.34)</b>

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 \$59.34M compared to a net credit of \$8.44M last month.

## CRR Balancing Account Fund – January 2018

CRR Balancing Account Fund	\$ in Millions
Beginning Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$13.80
CRR PTP Option Award Charges	\$0.06
Day-Ahead CRR Short-Charges Refunded	(\$0.71)
Load Allocated CRR Amount	(\$13.15)
<b>Total Fund Amount</b>	<b>\$10.00</b>

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

As of January 2018, the CRR Balancing Account Fund was at \$10M and excess funds of \$13.15M were allocated to Load.

## Revenue Neutrality – January 2018

### Revenue Neutrality Settlement

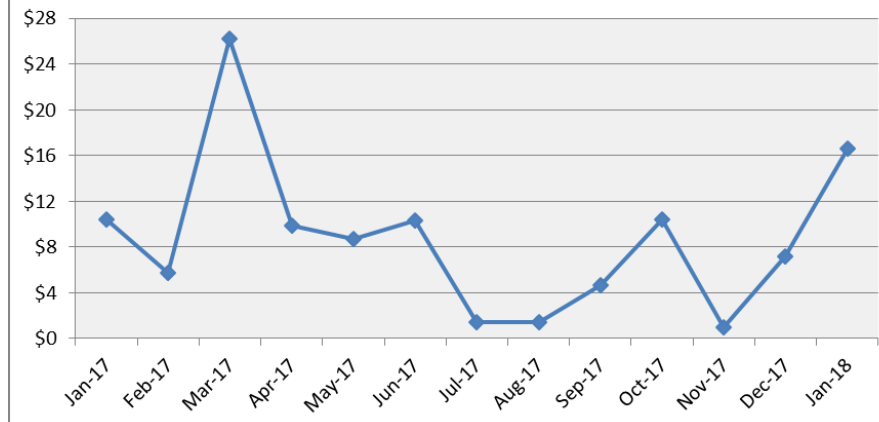
	\$ in Millions
Real-Time Point to Point Obligation Settlement	(\$124.77)
Real-Time Point to Point Options and Options with Refund Settlement	\$0.00
Real-Time Energy Imbalance Settlement	\$117.25
Real-Time Congestion from Self-Schedules Settlement	(\$0.73)
DC Tie & Block Load Transfer Settlement	(\$8.32)
<b>Charge to Load</b>	<b>\$16.57</b>

Revenue Neutrality charge to load increased compared to last month and increased compared to January 2017.

January 2018 was a charge of \$16.57M, compared to:

- \$7.18M charge in December 2017
- \$10.46M charge in January 2017

Revenue Neutrality Uplift (\$M)



## Real-Time Ancillary Service Imbalance (ORDC) – January 2018

Real-Time Ancillary Service Imbalance	\$ in Thousands
Load Allocated AS Imbalance Revenue Neutrality Amount	(\$113.62)
Load Allocated Reliability Deployment AS Imbalance Revenue Neutrality Amount	\$479.67
<b>Total Charges</b>	<b>\$366.05</b>
Real-Time AS Imbalance Amount	\$113.62
Real-Time Reliability Deployment AS Imbalance Amount	(\$479.68)
<b>Total Payments</b>	<b>(\$366.06)</b>

The Real-Time Ancillary Service Imbalance charge to load increased compared to last month and decreased compared to January 2017.

January 2018 had a charge to load of \$366K, compared to:

- A charge of \$21K in December 2017
- A charge of \$597K in January 2017

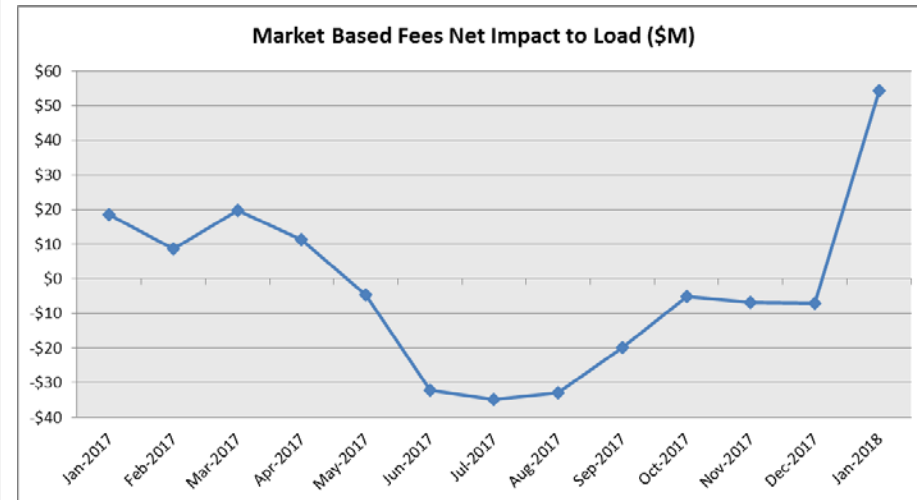
## Net Allocation to Load – January 2018

Market-Based Allocation	\$ in Millions
CRR Auction Revenue Disbursement Settlement	(\$37.07)
Balancing Account Proceeds Settlement	(\$13.15)
Net Reliability Unit Commitment Settlement	(\$0.39)
Ancillary Services Settlement	\$88.38
Reliability Must Run Settlement (incl. RMR for Capacity)	\$0.00
Real-Time Revenue Neutrality Settlement	\$16.57
Emergency Energy Settlement	\$0.16
Base Point Deviation Settlement	(\$0.51)
ORDC Settlement	\$0.37
<b>Total</b>	<b>\$54.36</b>
<b>Fee Allocation</b>	
ERCOT Administrative Fee Settlement	\$17.42
<b>Net Allocated to Load</b>	<b>\$71.78</b>

The net allocation to Load increased from last month and increased from January 2017.

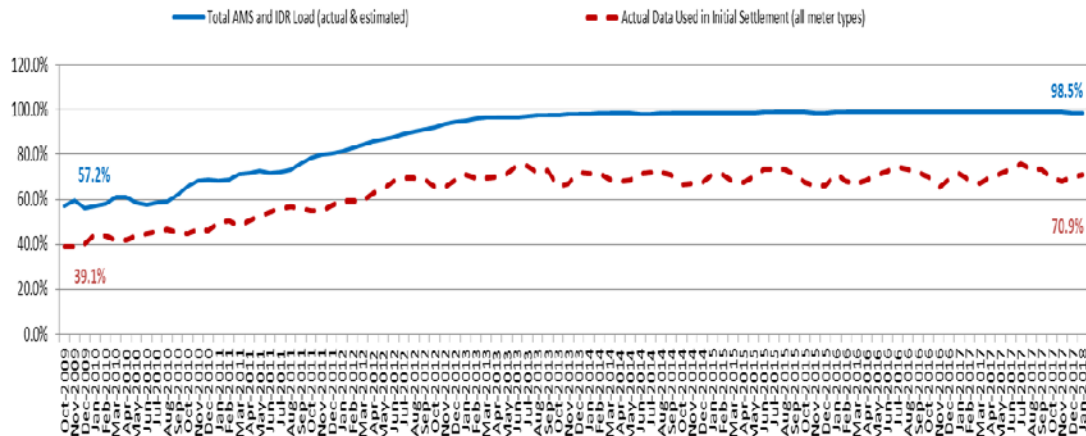
January 2018 was a charge of \$71.78M, compared to:

- A charge of \$9.19M in December 2017
- A charge of \$33.71M in January 2017



# Advanced Meter Settlement Impacts – January 2018

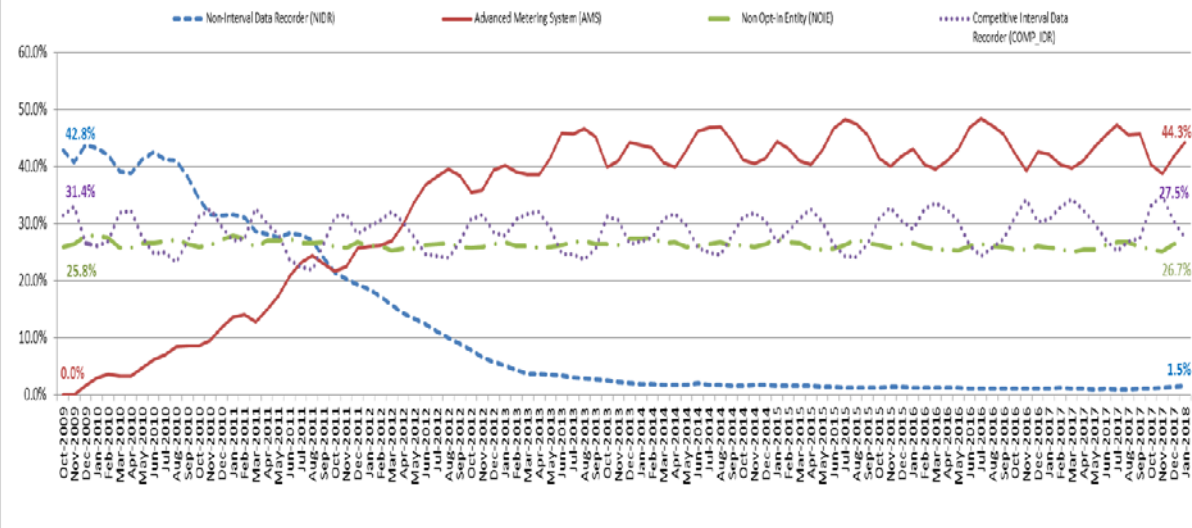
Percent Actual/Percent Interval Data Recorder (IDR)



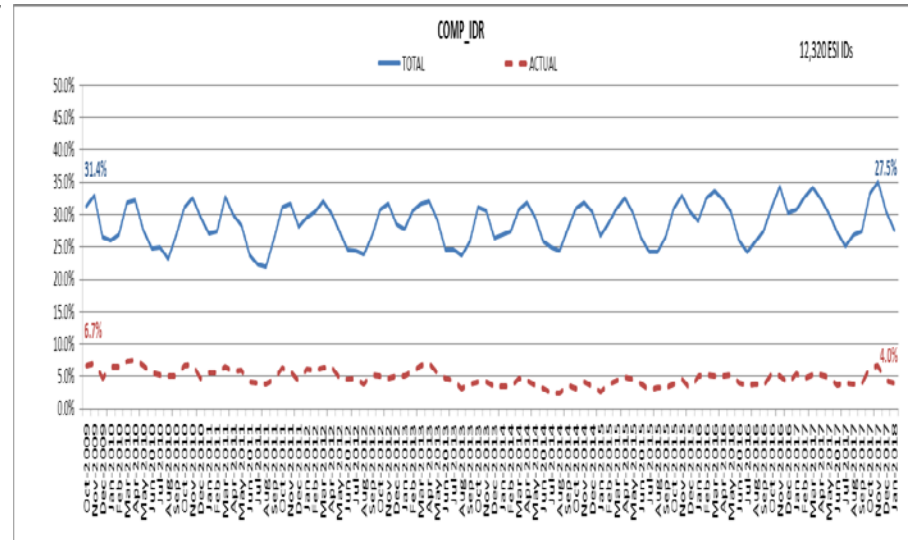
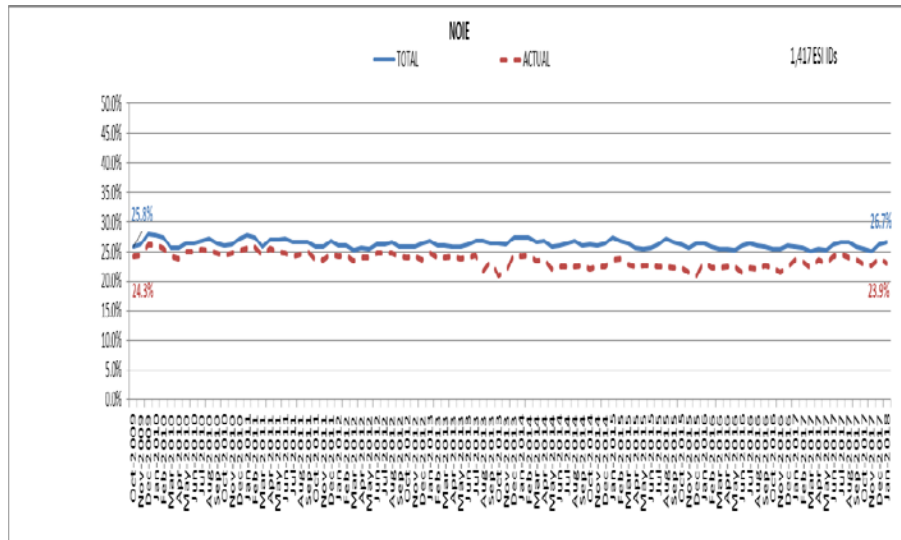
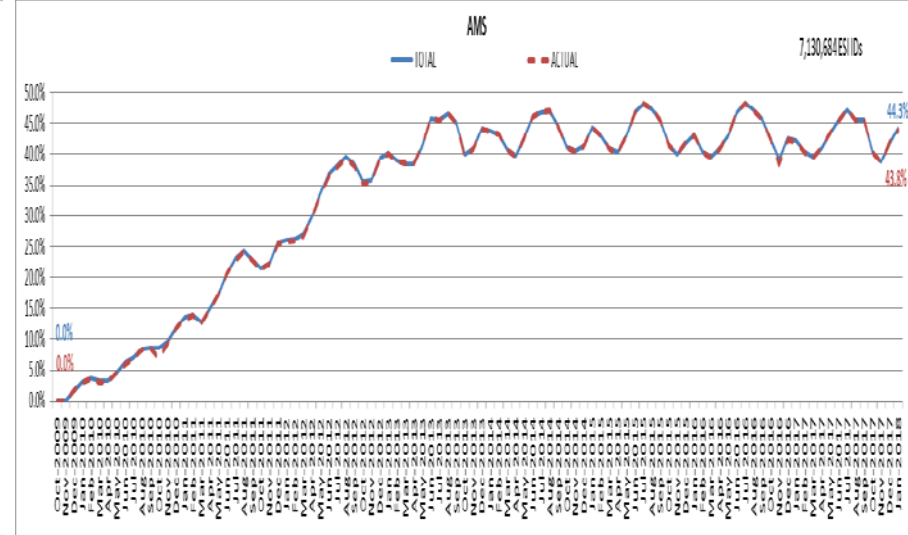
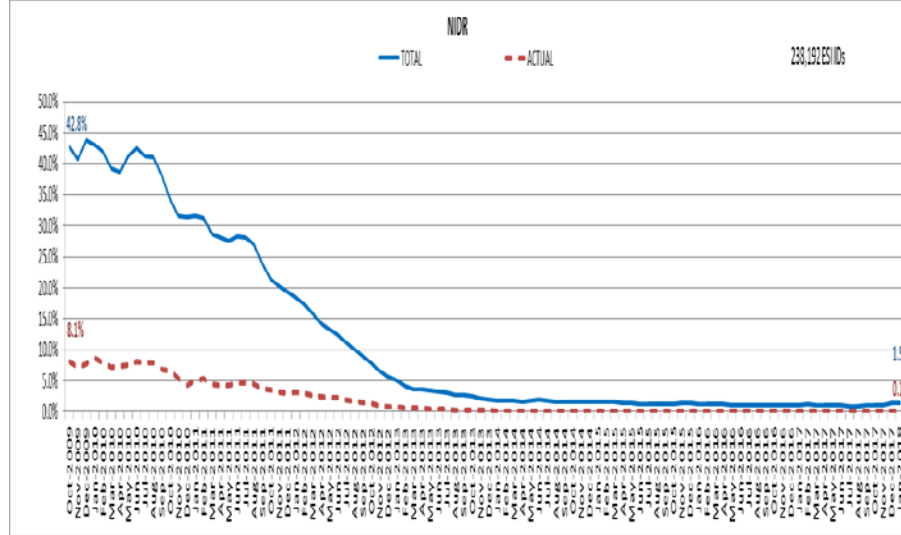
January 2018: At month end, settling 7.1M ESIIDs using Advanced Meter data.

January 2018: 98.5% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).

Percent of Load by Meter Type



# ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – January 2018

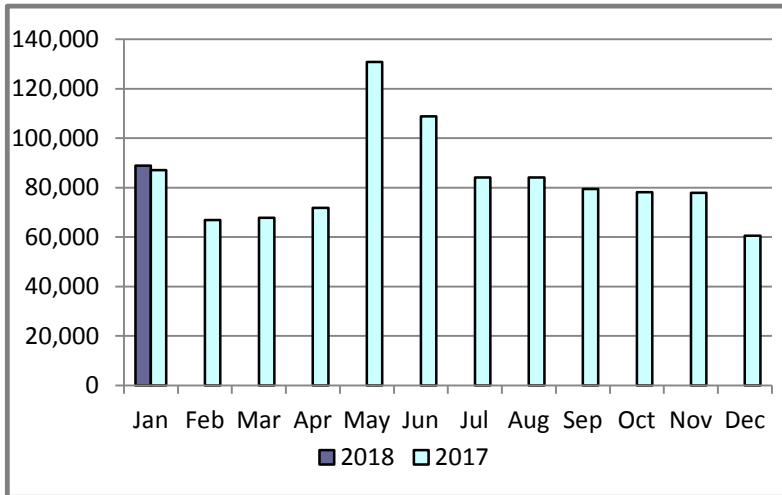


## Retail Transaction Volumes – Summary – January 2018

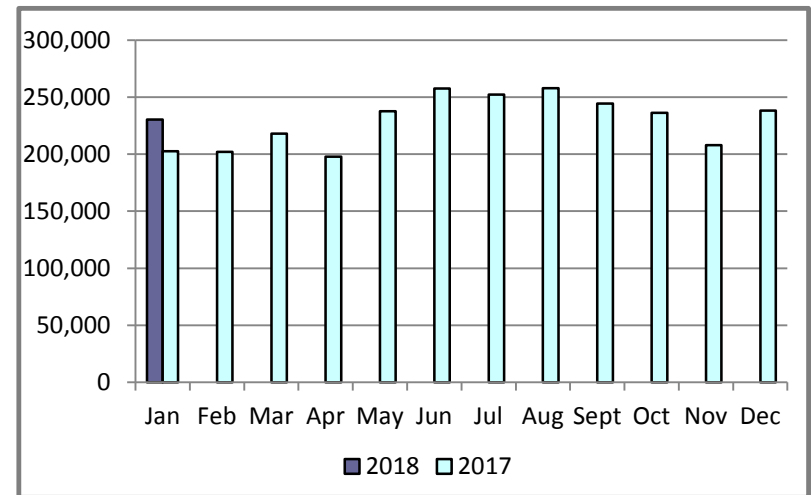
	Year-To-Date		Transactions Received	
Transaction Type	January 2018	January 2017	January 2018	January 2017
Switches	88,933	87,140	88,933	87,140
Acquisition	0	0	0	0
Move - Ins	230,409	202,612	230,409	202,612
Move - Outs	111,821	101,107	111,821	101,107
Continuous Service Agreements (CSA)	49,740	44,030	49,740	44,030
Mass Transitions	0	0	0	0
<b>Total</b>	<b>480,903</b>	<b>434,889</b>	<b>480,903</b>	<b>434,889</b>

# Retail Transaction Volumes – Summary – January 2018

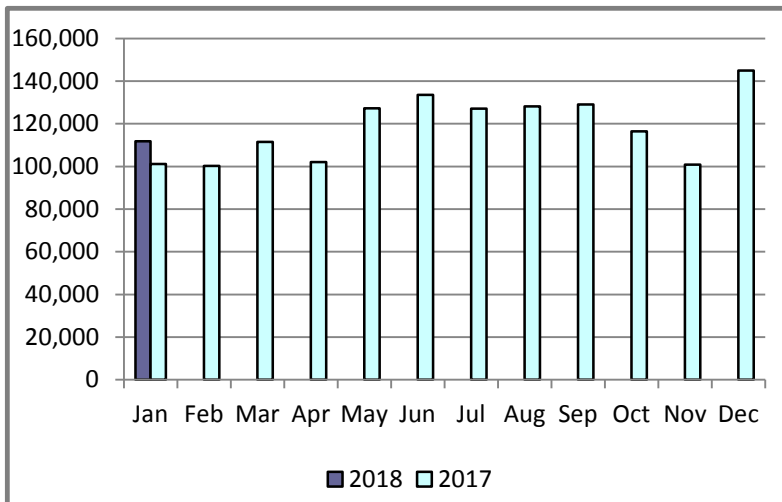
## Switches/Acquisitions



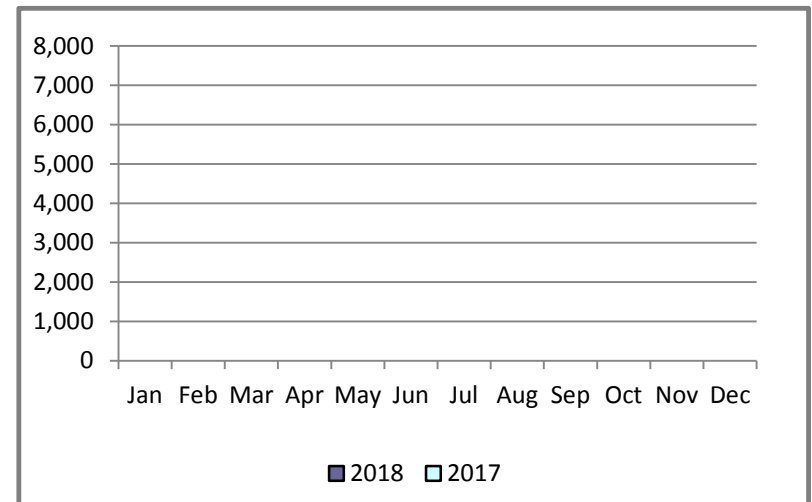
## Move-Ins



## Move-Outs

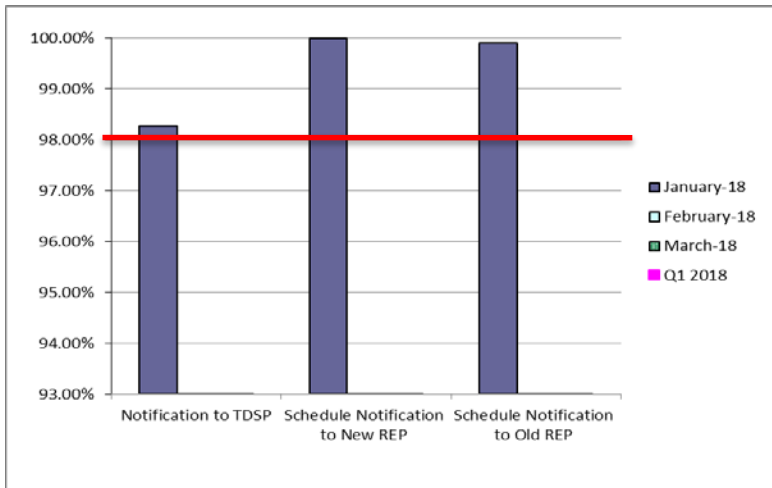


## Mass Transition

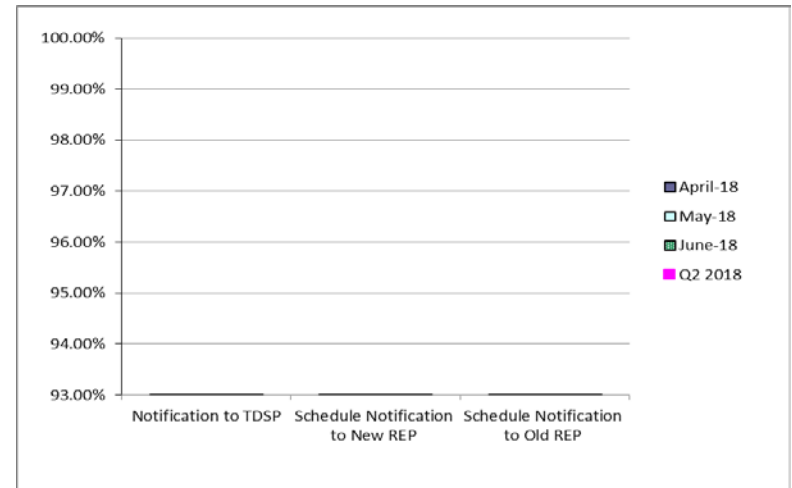


# Retail Performance Measures – Switch – January 2018

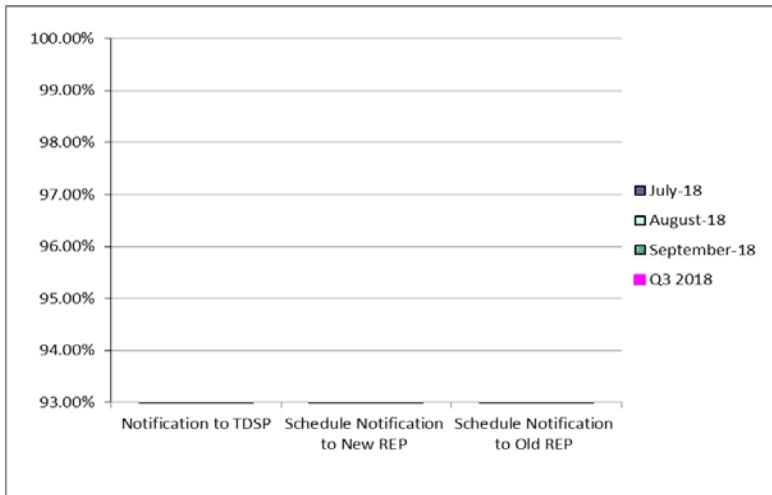
## 1<sup>st</sup> Quarter



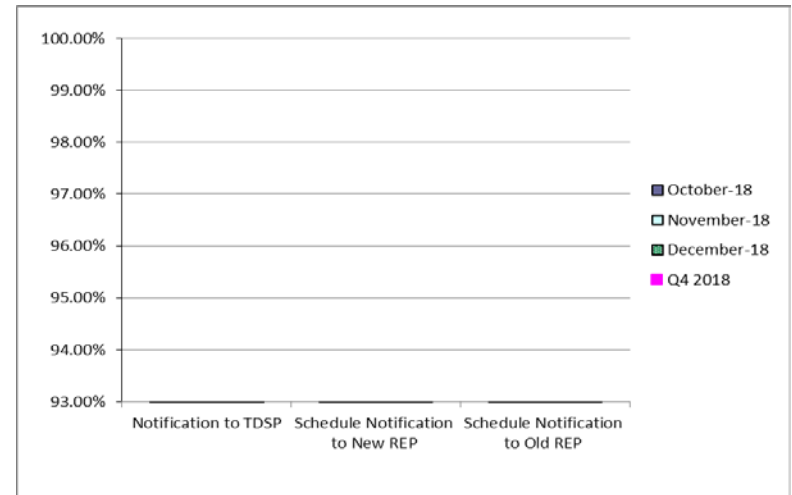
## 2<sup>nd</sup> Quarter



## 3<sup>rd</sup> Quarter

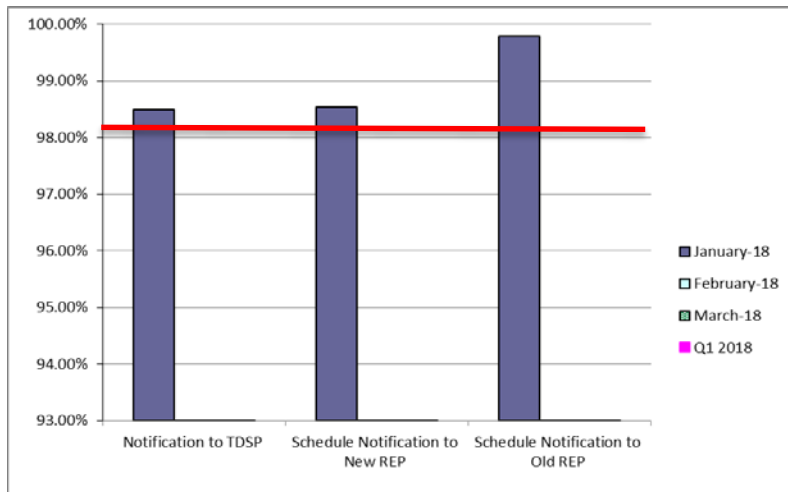


## 4<sup>th</sup> Quarter

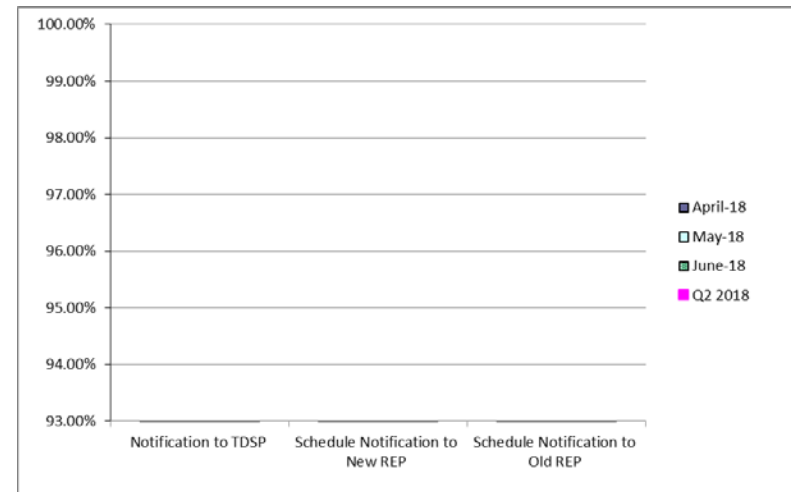


# Retail Performance Measures – Same Day Move-In – January 2018

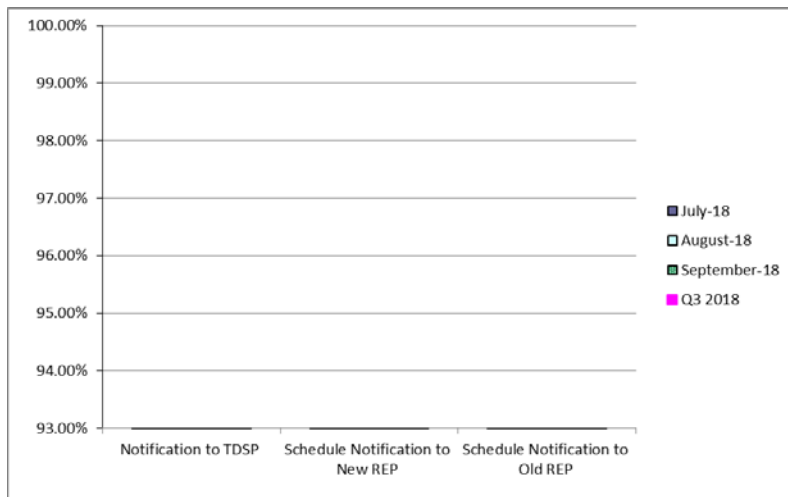
## 1<sup>st</sup> Quarter



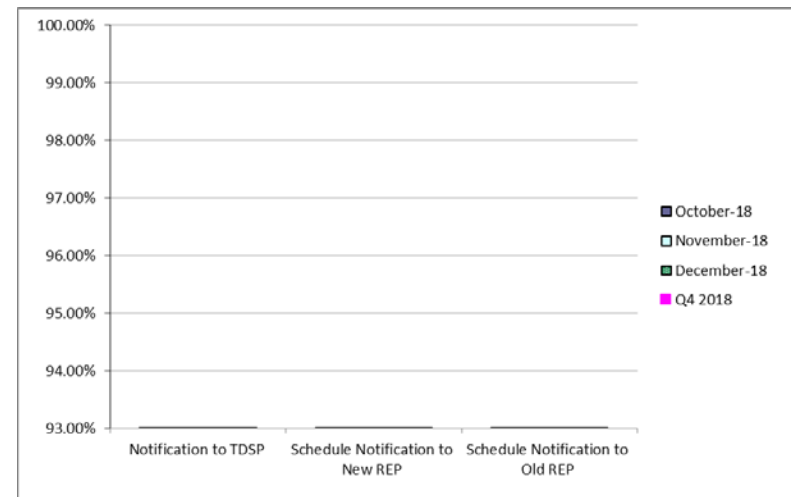
## 2<sup>nd</sup> Quarter



## 3<sup>rd</sup> Quarter

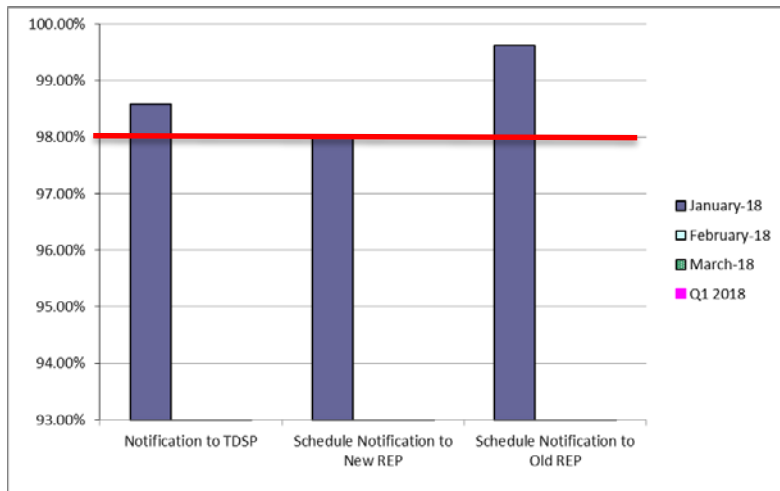


## 4<sup>th</sup> Quarter

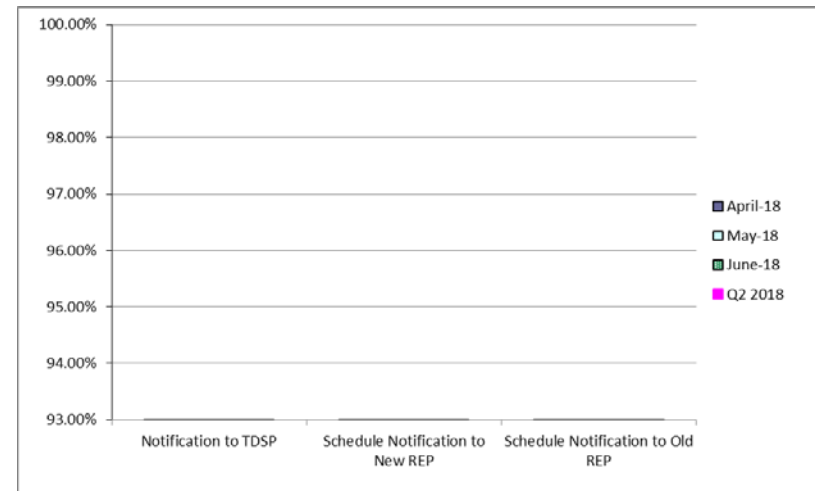


# Retail Performance Measures – Standard Move-In – January 2018

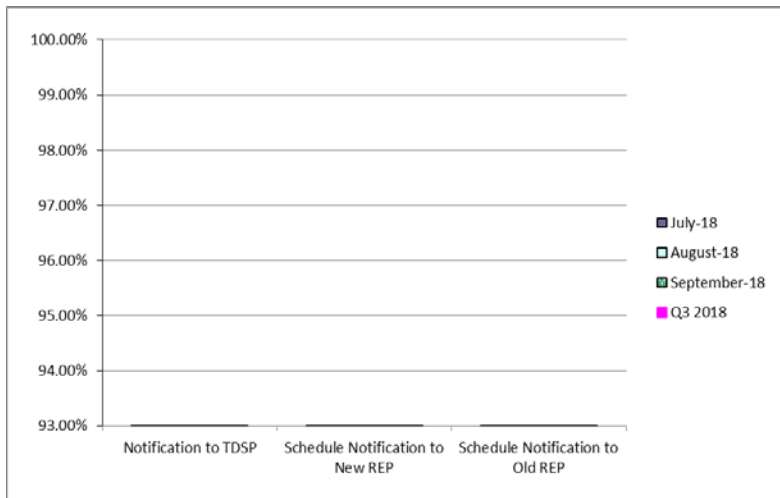
## 1<sup>st</sup> Quarter



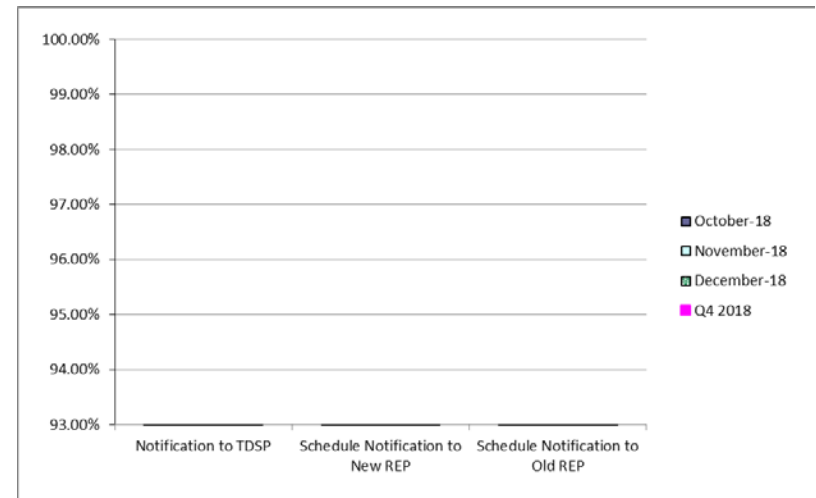
## 2<sup>nd</sup> Quarter



## 3<sup>rd</sup> Quarter



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



# Projects Report

# ERCOT Portfolio Stoplight Report – January 2018

Impact Metric Tolerances	2018 Project Funding		\$ 19,088,000	2018 Portfolio Spending Estimate
Unfavorable variances are represented as negative numbers within the report. - Green = No more than 4.9% unfavorable variance - Yellow = Unfavorable variance between 4.9% and 9.9% - Red = Unfavorable variance more than 9.9%	Projects In Flight/On Hold (Count = 88)			\$ 17,950,307
	Projects Not Yet Started (Count = 11)			\$ 2,808,557
	Projects Completed (Count = 9)			\$ 177,068
	Spending Reductions Required to Maintain Capital Budget			\$ (1,847,932)
	<b>TOTAL</b>			<b>\$ 19,088,000</b>

Project Number	Projects in Initiation Phase (Count = 3)
TBD	Security Information and Event Management (SIEM) Replacement
SCR789	Update NMMS Topology Processor to PSSE 34 Capability
269-01	Document Repository Redesign and Governance Implementation - Phase 1

## 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 – January 2018

Project Number	Projects in Planning Phase (Count = 16)	Phase Start	Baseline Phase Finish	Approved Phase Finish	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
170-06	ECAP - ECMS Implementation Phase 1	12/6/2017	2/21/2018	2/21/2018	TBD	2/21/2018		0%		0%
183-01	CMM-FT GUI Integration	12/16/2015	8/17/2016	TBD	TBD	TBD		0%	NA	See 2015 CMM NPRRs
239-01	Identity and Access Management	11/2/2017	5/2/2018	5/2/2018	TBD	5/2/2018		0%		0%
240-01	EDI Translator and Mapping Replacement Assessment	4/19/2017	9/27/2017	2/28/2018	TBD	2/28/2018		0%		1%
242-01	Portfolio Reporting Assessment	11/8/2017	12/19/2018	12/19/2018	TBD	12/19/2018		0%		16%
245-01	2017 EPS Metering Enhancements	12/13/2017	5/30/2018	5/30/2018	TBD	5/30/2018		0%		24%
258-01	WD Kainos SMART Automation Testing Tool	11/29/2017	3/7/2018	3/7/2018	TBD	3/16/2018	1	-9%		35%
260-01	Information Governance Assessment	10/18/2017	5/30/2018	5/30/2018	TBD	5/30/2018		0%		3%
261-01	Generic Transmission Constraint Calculation	9/27/2017	12/22/2017	12/22/2017	TBD	2/28/2018	1	-79%		0%
263-01	Market Simulator	11/29/2017	2/21/2018	2/21/2018	TBD	2/21/2018		0%		5%
271-01	Issue Tracking and Resolution Tool Assessment	12/13/2017	4/25/2018	4/25/2018	TBD	4/25/2018		0%		17%
274-01	Average Mid-Term Load Forecast	1/31/2018	3/7/2018	3/7/2018	TBD	3/7/2018		0%		1%
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
NPRR768	Revisions to Real-Time On-Line Reliability Deployment Price Adder Categories	1/31/2018	2/28/2018	2/28/2018	TBD	2/28/2018		0%		0%
NPRR815	Revise the Limitation of Load Resources Providing Responsive Reserve (RRS) Service	2/14/2018	3/7/2018	3/7/2018	TBD	3/7/2018		0%		0%
Project Number	Projects in Execution Phase (Count = 45)	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%		10%
173-02	ERCOT Flight Certification Website	11/15/2017	2/28/2019	2/28/2019	2/28/2019	5/31/2019		0%		-4%
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	5/19/2018	5/19/2018	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	3/5/2018	4/17/2018	3/28/2018	2	-9%	2	-10%
198-02	Reactive Power Coordination PoC	9/6/2017	6/16/2018	6/16/2018	6/13/2018	6/13/2018		1%		32%
209-01	Multi Station Breaker to Breaker One Lines	2/8/2017	3/9/2018	3/9/2018	3/9/2018	5/1/2018		0%		0%
210-01	REC Technology Refresh	8/30/2017	3/18/2018	5/31/2018	5/31/2018	7/11/2018		0%		2%
229-01	IT Change and Configuration Management Phase 2	8/2/2017	6/19/2018	6/19/2018	6/19/2018	9/5/2018		0%		-2%
233-24	Job Description Repository	2/8/2018	7/8/2018	7/8/2018	7/8/2018	7/8/2018		0%	NA	See 233-00

# ERCOT Portfolio Stoplight Report – January 2018

Project Number	Projects in Execution Phase (Count = 45)	Phase Start	Baseline Go-Live Date	Approved Go-Live Date	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
238-01	Application Authentication Tech Refresh	9/6/2017	3/19/2018	4/9/2018	4/9/2018	7/25/2018		0%		2%
241-01	AREA - Generation	10/11/2017	3/30/2018	3/30/2018	4/5/2018	4/19/2018		-3%	2	-5%
244-01	Corporate Wireless	11/29/2017	3/28/2018	3/28/2018	3/28/2018	4/25/2018		0%		5%
246-01	iTest Data Refresh	12/13/2017	1/2/2019	1/2/2019	1/2/2019	1/2/2019		0%		14%
249-01	Secondary Wind Forecasting Service	8/30/2017	2/28/2018	4/5/2018	4/5/2018	6/27/2018		0%		3%
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%		7%
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%		10%
259-01	DC SCADA and Metering Upgrade	10/25/2017	1/17/2018	5/11/2018	5/11/2018	6/30/2018		0%		1%
265-01	Real-Time Assessment Continuity	1/31/2018	12/13/2018	12/13/2018	12/13/2018	1/30/2019		0%		65%
266-01	Remote Email Access Enhancement	12/13/2017	3/7/2018	3/7/2018	3/7/2018	3/7/2018		0%		21%
272-01	Operator Training Simulator Black Start GE Effort	12/6/2017	4/25/2018	4/25/2018	3/30/2018	3/30/2018		18%		0%
Various	2015 CMM NPRRs									0%
NPRR519	Exemption of ERS-Only QSEs from Collateral and Capitalization Requirements	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	5/19/2018	5/19/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR648	Remove References to Flowgate Rights	3/15/2017	5/19/2018	5/19/2018	3/18/2018	12/31/2018		14%	NA	See 2015 CMM NPRRs
NPRR660	Remove CRR State Change Adder	3/15/2017	5/19/2018	5/19/2018	5/19/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR683	Revision to Available Credit Limit Calculation	3/15/2017	5/19/2018	5/19/2018	3/18/2018	12/31/2018		14%	NA	See 2015 CMM NPRRs
NPRR741	Clarifications to TPE and EAL Credit Exposure Calculations	3/15/2017	5/19/2018	5/19/2018	5/19/2018	12/31/2018		0%	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	3/18/2018	12/31/2018		14%	NA	See 2015 CMM NPRRs
NPRR749	Option Cost for Outstanding CRRs	3/15/2017	5/19/2018	5/19/2018	3/18/2018	12/31/2018		14%	NA	See 2015 CMM NPRRs
NPRR755	Data Agent-Only QSE Registration	3/15/2017	5/19/2018	5/19/2018	5/19/2018	12/31/2018		0%	NA	See 2015 CMM NPRRs
NPRR760	Calculation of Exposure Variables For Days With No Activity	3/15/2017	5/19/2018	5/19/2018	3/18/2018	12/31/2018		14%	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%		5%
NPRR800	Revisions to Credit Exposure Calculations to Use Electricity Futures Market Prices	3/15/2017	5/19/2018	5/19/2018	3/18/2018	12/31/2018		14%	NA	See 2015 CMM NPRRs
NPRR809	GTC or GTL for New Generation Interconnection	6/15/2017	3/31/2018	3/31/2018	3/31/2018	3/31/2018		0%	NA	See #233-00
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

# ERCOT Portfolio Stoplight Report – January 2018

Project Number	Projects in Execution Phase (Count = 45)	Phase Start	Baseline Go-Live Date	Approved Go-Live Date	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
NPRR830	Revision of 4-Coincident Peak Methodology	12/13/2017	2/6/2018	2/6/2018	2/6/2018	3/14/2018		0%		19%
NPRR833	Modify PTP Obligation Bid Clearing Change	11/8/2017	4/5/2018	4/5/2018	4/5/2018	5/3/2018		0%		14%
PGRR052	Stability Assessment for Interconnecting Generation	6/15/2017	3/31/2018	3/31/2018	3/31/2018	3/31/2018		0%	NA	See #233-00
PGRR054	Stability Limits in the Full Interconnect Study	6/15/2017	3/31/2018	3/31/2018	3/31/2018	3/31/2018		0%	NA	See #233-00
PGRR057	Responsibilities for Performing Geomagnetic Disturbance (GMD) Vulnerability	6/15/2017	7/1/2019	7/1/2019	7/1/2019	7/1/2019		0%	NA	See #233-00
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	4/25/2018	4/25/2018		0%		1%
SCR792	Enhance Communications of BAAL Exceedances	2/14/2018	4/5/2018	4/5/2018	4/5/2018	4/25/2018		0%		0%
Project Number	Expedited Projects in Execution (Count = 20)									
Project Number	Projects in Stabilization (Count = 3)	Execution Phase Start	Baseline Go-Live Target	Approved Go-Live Target	Actual Go-Live Date	Scheduled Execution Phase Finish	Schedule Health		Budget Health	
224-01	TelAlert Replacement	4/5/2017	6/27/2017	8/4/2017	8/4/2017	4/2/2018		0%		1%
230-01	SAS Technical Architecture Redesign	3/1/2017	12/13/2017	12/13/2017	12/13/2017	4/30/2018		0%		2%
NPRR831	Inclusion of Private Use Networks in Load Zone Price Calculations	8/2/2017	11/2/2017	11/2/2017	11/2/2017	TBD		0%		22%
Project Number	Projects On Hold (Count = 1)	Forecast Start Date	Baseline Phase Finish	Approved Go-Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
228-01	Enterprise Database Upgrade									20%

# ERCOT Portfolio Stoplight Report – January 2018

Project Number	Projects Completed (Count = 7)	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%
234-01	Reporting Solution Resiliency (RSR)	4/5/2017	8/23/2017	11/27/2017	11/27/2017	1/10/2018		0%		8%
254-01	Retail Windows Upgrade	10/11/2017	12/18/2017	12/18/2017	1/22/2018	2/7/2018	1	-51%		21%
255-01	Settlements Architecture Enhancements	10/25/2017	1/11/2018	1/11/2018	1/11/2018	2/14/2018		0%		27%
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%		21%
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	9/18/2017	1/31/2018		0%		33%

Project Number	Expedited Projects Completed (Count = 2)	
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Project Number	2018 Projects Not Yet Started (Count = 11)	Forecast Start Date
NPRR562	Subsynchronous Resonance	Feb-2018
SCR791	Correction of 60-day SCED GRD Disclosure Report	Feb-2018
NPRR817	Create a Panhandle Hub	Mar-2018
TBD	EDI Translator and Mapping Replacement	Mar-2018
TBD	Synch Condenser Modeling	Mar-2018
NPRR843	Short-Term System Adequacy and AS Offer Disclosure Reports Additions	May-2018
ECAP	ECAP - ECMS Implementation Phase 2	Jun-2018
TBD	Resource Integration and Ongoing Operations (RIOO) - Ph 2	Jul-2018
TBD	Infrastructure Software Upgrade Assessment	Jul-2018
TBD	Job Scheduler Update in CSI Framework	Oct-2018
TBD	2018 OS Enhancements	Oct-2018