



ERCOT Monthly Operational Overview (September 2018)

ERCOT Public
October 15, 2018

Grid Planning & Operations

Summary – September 2018

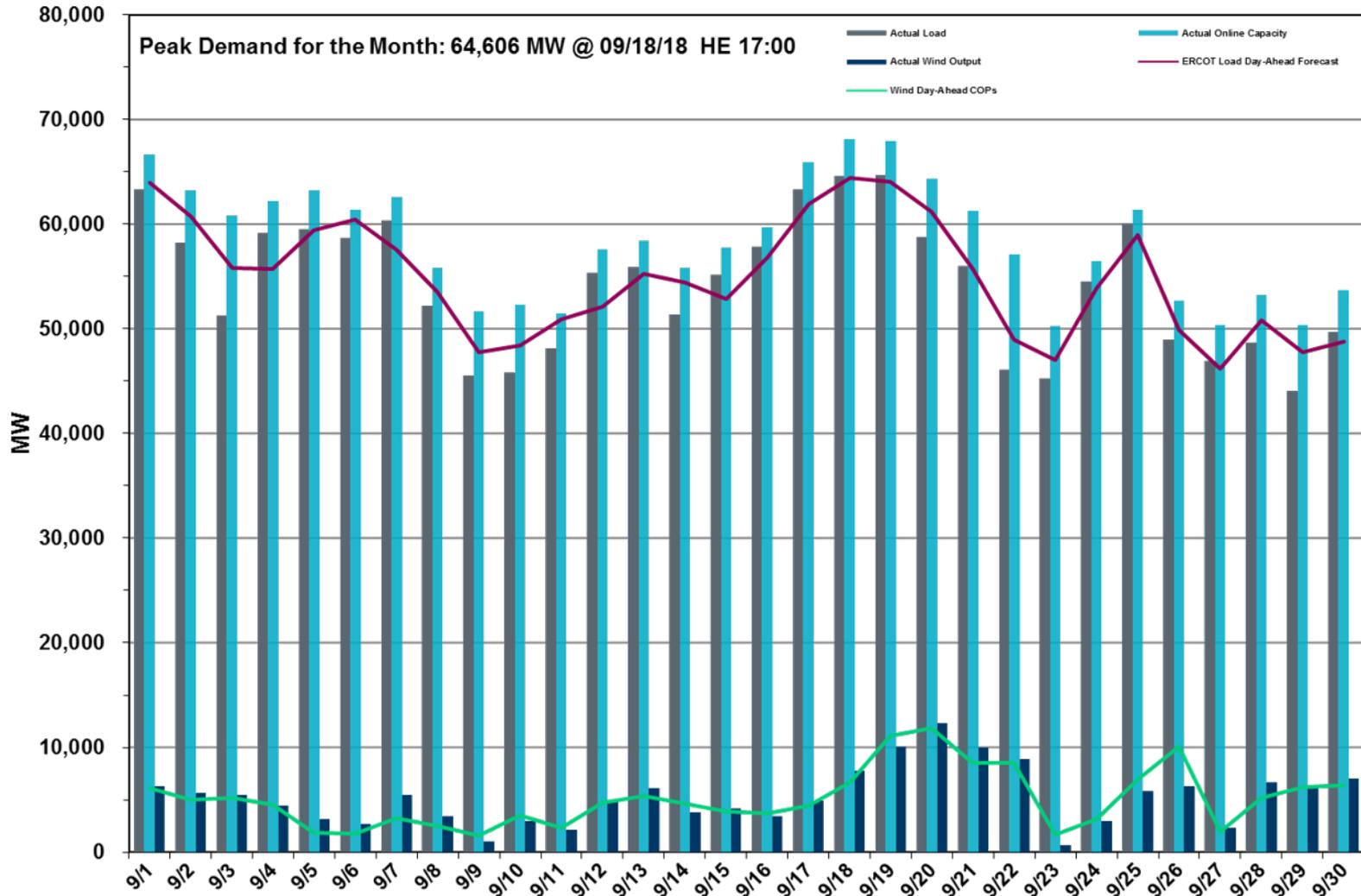
Operations

- The preliminary Settlements hourly peak demand of 64,606* MW on September 18 was higher than the day-ahead mid-term load forecast peak of 64,458 MW for the same operating hour.
 - The operational instantaneous peak demand was 64,790 MW (telemetry).
- Day-ahead load forecast error for September was 2.41%
- ERCOT issued 10 notifications:
 - Three Advisories issued due to Physical Responsive Capability being below 3000 MW
 - Six DC Tie-related Watches
 - One OCN issued for projected reserve capacity shortage

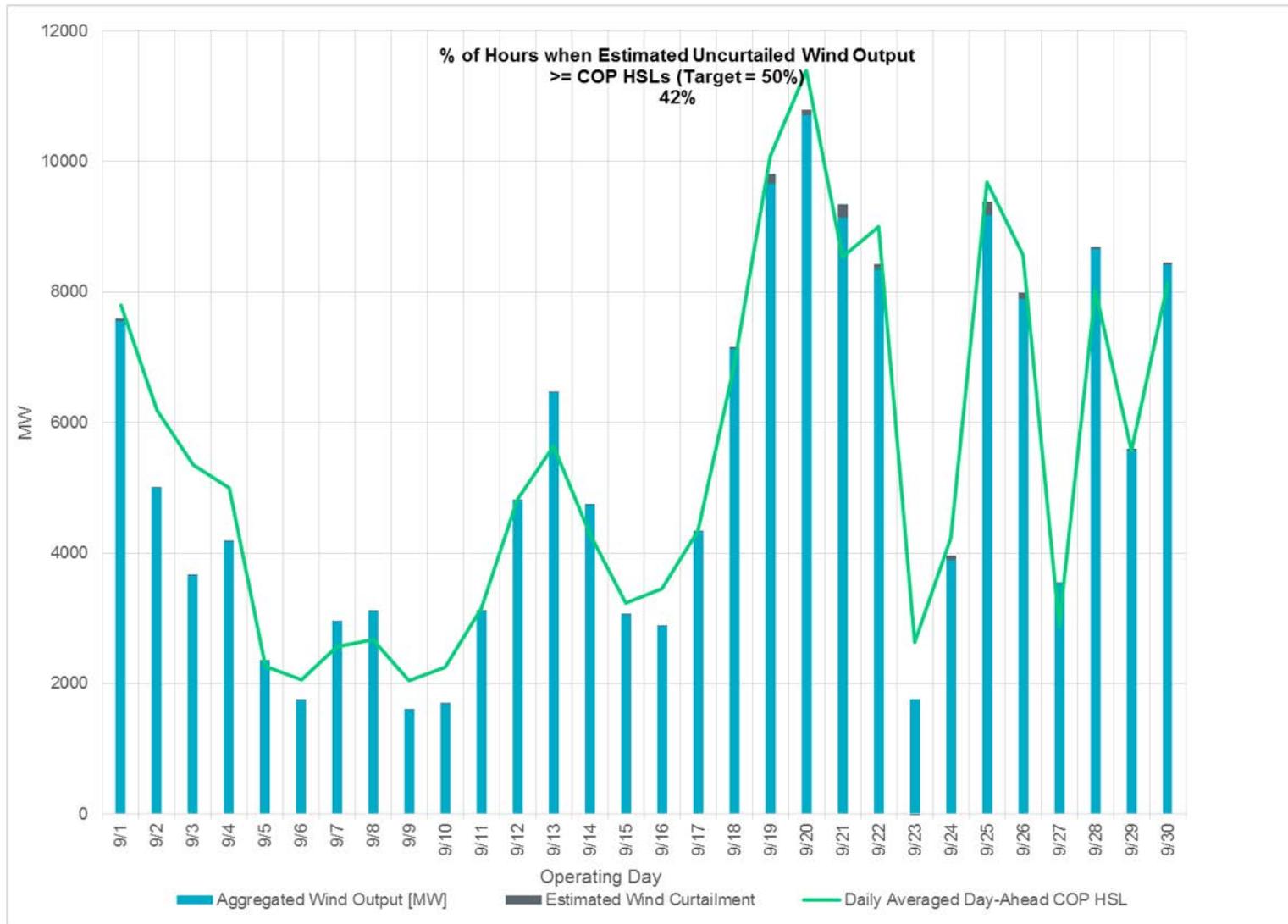
Planning Activities

- 426 active generation interconnection requests totaling 82,461 MW, including 40,327 MW of wind generation, as of September 30, 2018. Nine additional requests and a decrease of 1,030 MW from August 30, 2018.
- 21,550 MW wind capacity in commercial operations as of October 1, 2018.

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



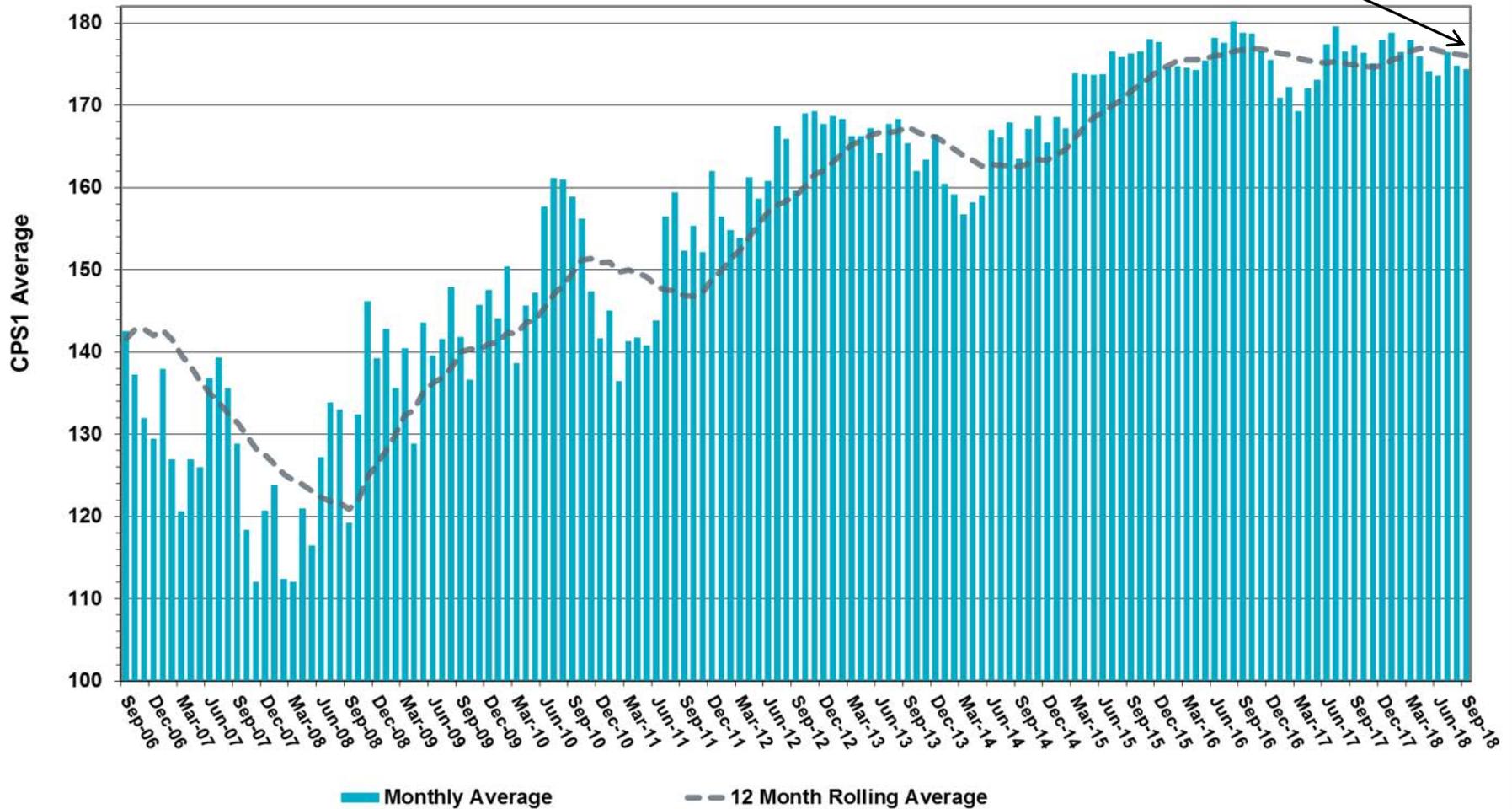
Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – September 2018



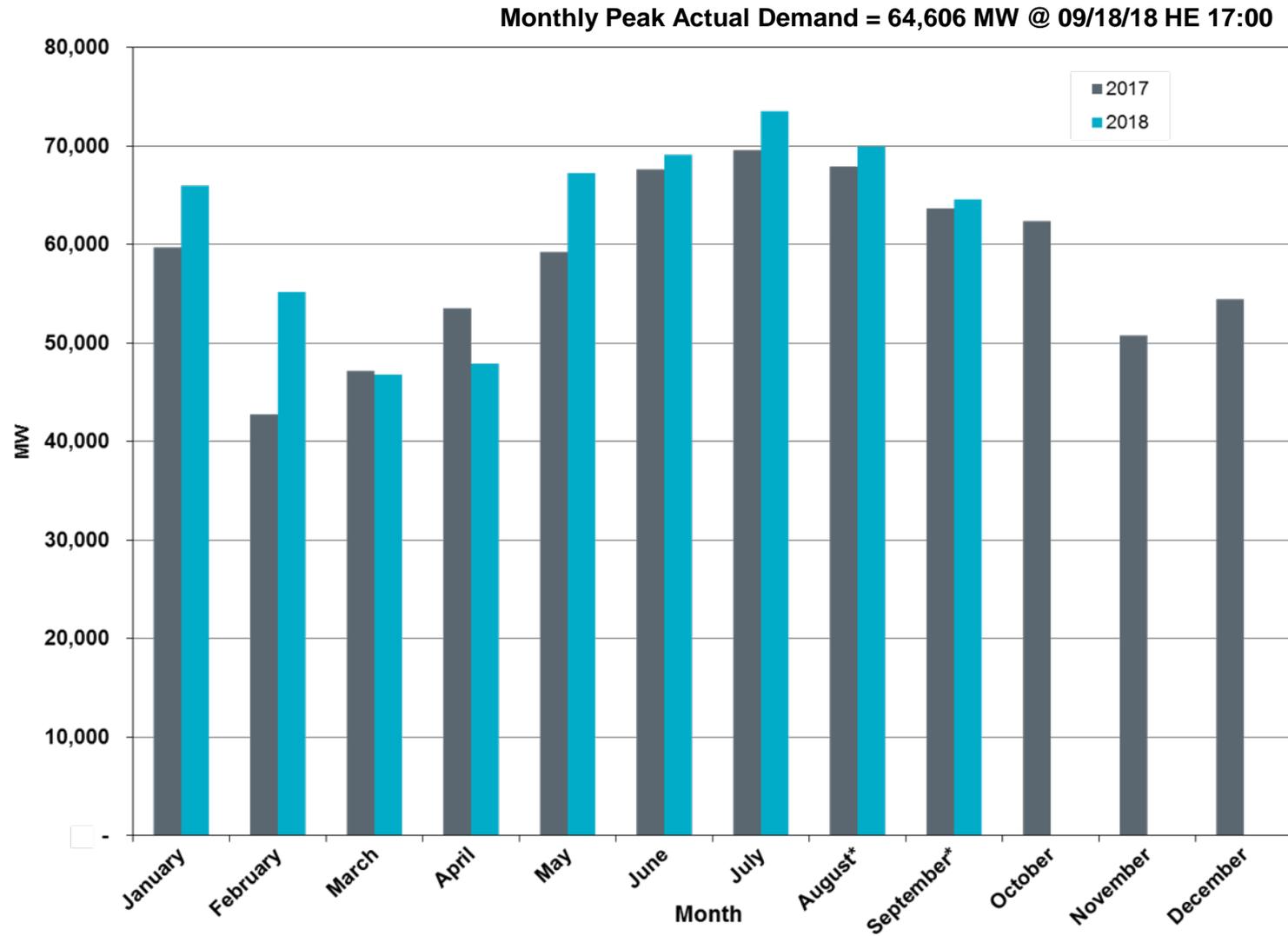
ERCOT's CPS1 Monthly Performance – September 2018

CPS1 12 Month Rolling Average = 176.02%

ERCOT CPS1

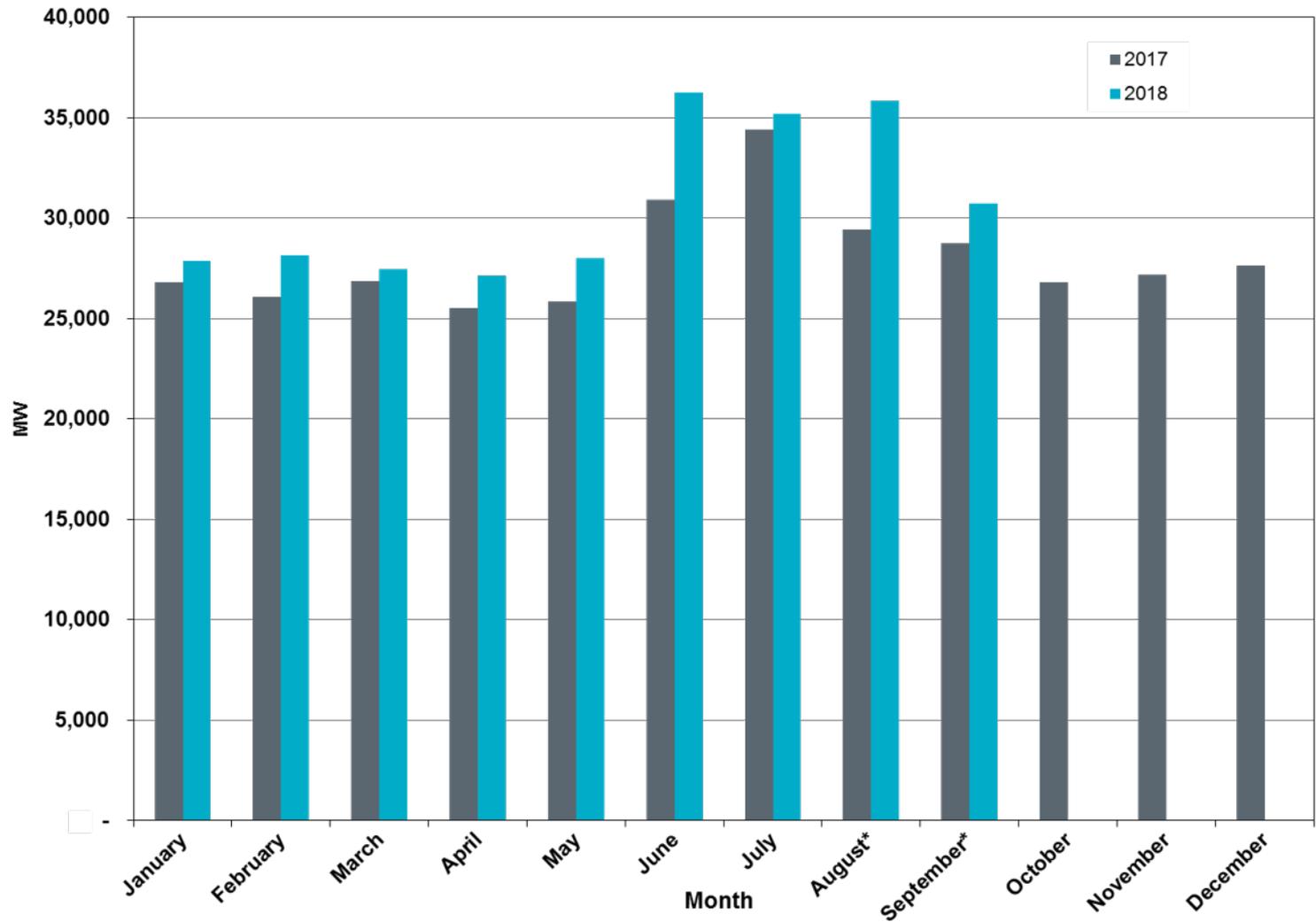


Monthly Peak Actual Demand – September 2018



*Preliminary for latest two months of the current year

Monthly Minimum Actual 15-Minute Demand – September 2018



*Preliminary for latest two months of the current year

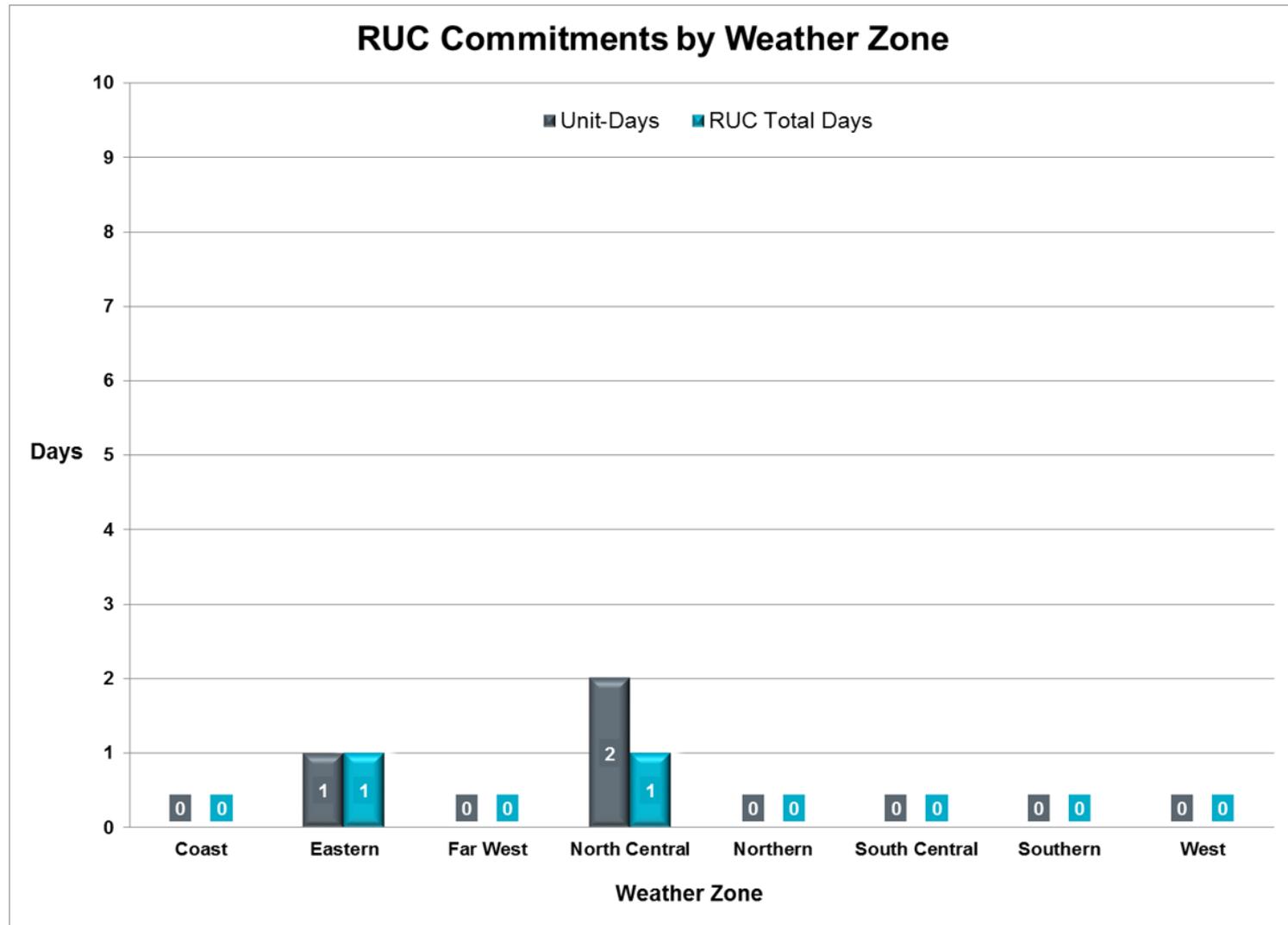


Day-Ahead Load Forecast Performance – September 2018

**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	September 2018 MAPE	
Average Annual MAPE	2.86	2.62	2.55	2.30	2.41	
Lowest Monthly MAPE	1.89	1.94	1.69	1.64	Lowest Daily MAPE	0.95 Sep 24
Highest Monthly MAPE	3.81	3.86	4.07	3.66	Highest Daily MAPE	5.12 Sep 3

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



Generic Transmission Constraints (GTCs) – September 2018

GTCs	Sep-17 Days GTCs	Jul-18 Days GTCs	Aug-18 Days GTCs	Sep-18 Days GTCs	Last 12 Months Total Days (Oct 17 – Sep 18)
North – Houston	0	0	0	1	9
Valley Import	0	1	0	0	14
Panhandle	18	5	12	12	260
Red Tap	0	0	0	0	0
North Edinburg – Lobo	0	0	0	0	1
Nelson Sharpe – Rio Hondo	-	0	0	0	65
East Texas	-	0	0	0	16

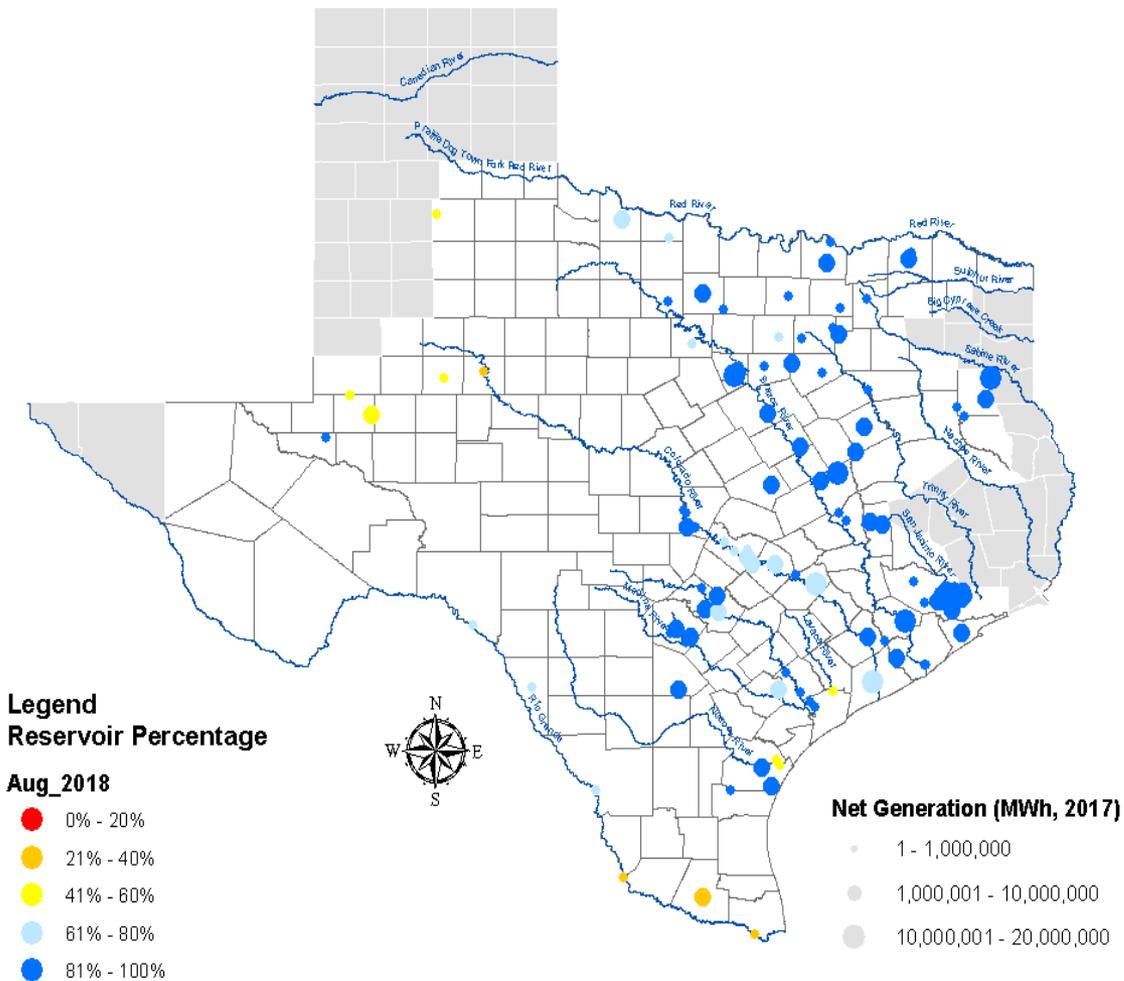
GTC: A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security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

- One OCN issued due to projected reserve capacity shortage for hours ending 14:00 through 18:00.
 - Issued 9/06
- Three Advisories issued due to Physical Responsive Capability being below 3000 MW.
 - Issued on 9/12, 9/13 and 9/16
- Two Watches issued for the de-rate of the Railroad DC-Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 9/03 and 9/04
- One Watch issued for the loss of the Laredo DC-Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 9/05
- Three Watches issued for the loss of the South DC-Tie and curtailment of DC-Tie exports to CENACE
 - Issued 9/14, 9/21 and 9/24

Lake Levels Update – October 1, 2018

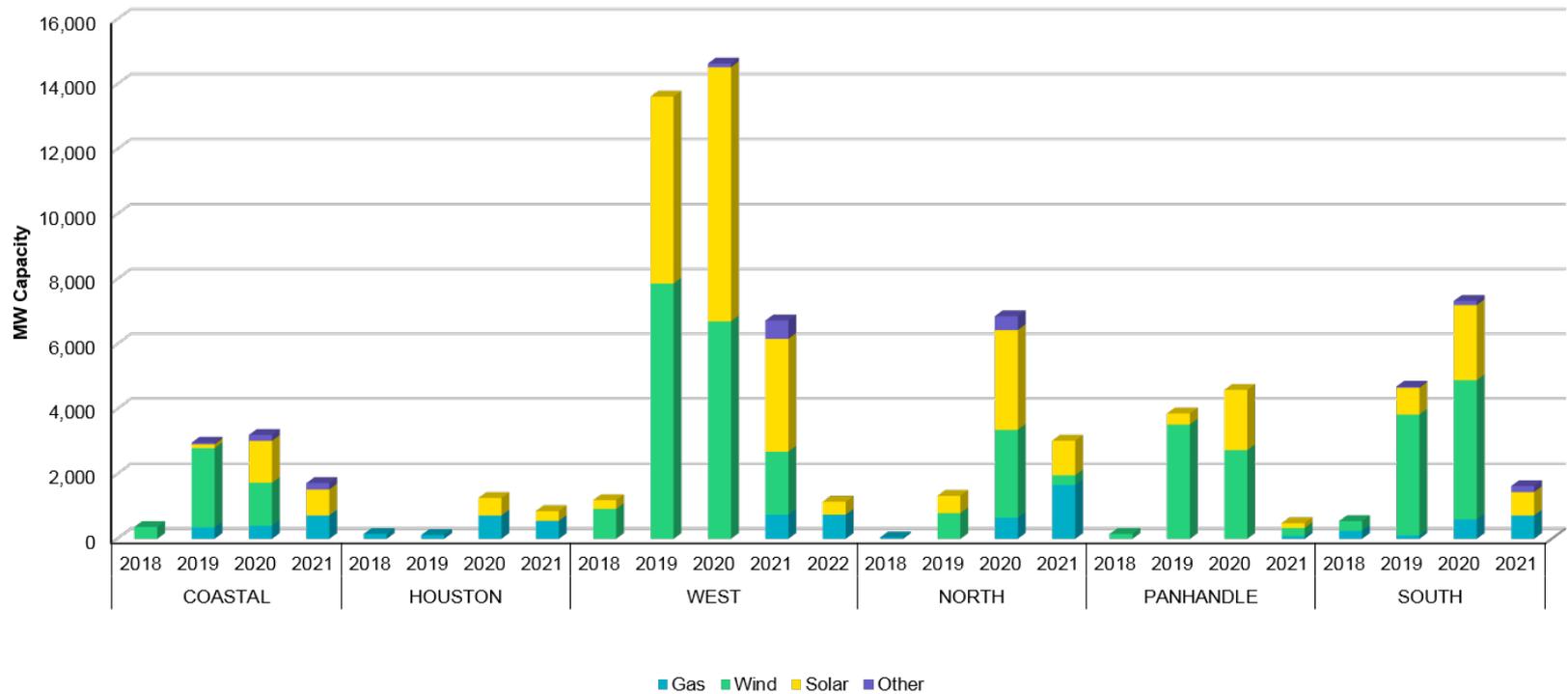


Planning Summary – September 2018

- ERCOT is currently tracking 426 active generation interconnection requests totaling 82,461 MW. This includes 40,327 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$597.6 million (as of September 30, 2018).
- Transmission Projects endorsed in 2018 total \$506.89 million (as of September 30, 2018).
- All projects (in engineering, routing, licensing, and construction) total approximately \$6.49 billion (as of June 1, 2018).
- Transmission Projects energized in 2018 total about \$1.120 billion (as of June 1, 2018).

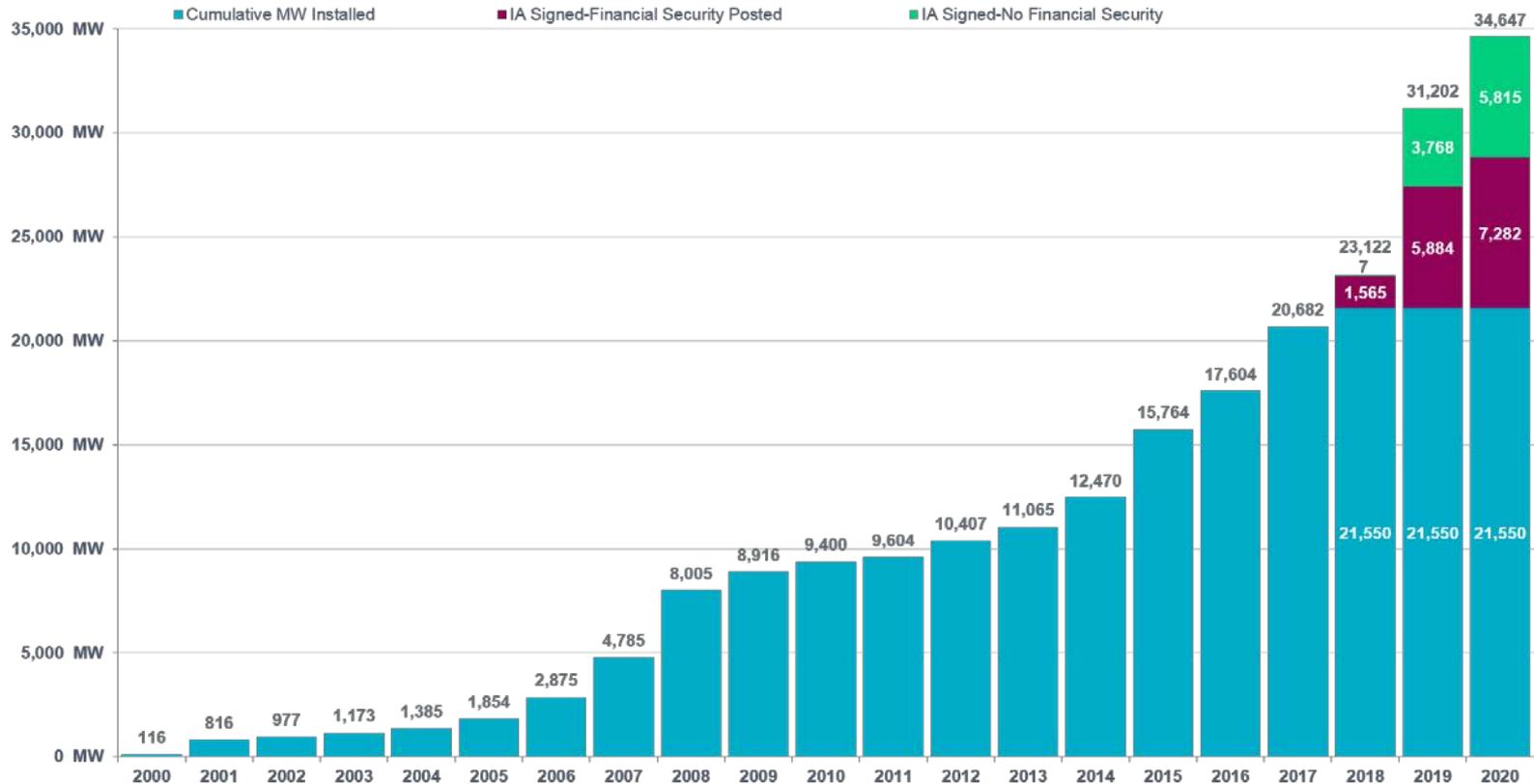
Cumulative MW Capacity of Interconnection Requests by Zone – September 2018

Capacity for Planned Projects by Projected In-service Year and CDR Forecast Zone



Wind Generation – September 2018

ERCOT Wind Additions by Year (as of Sep 30, 2018)

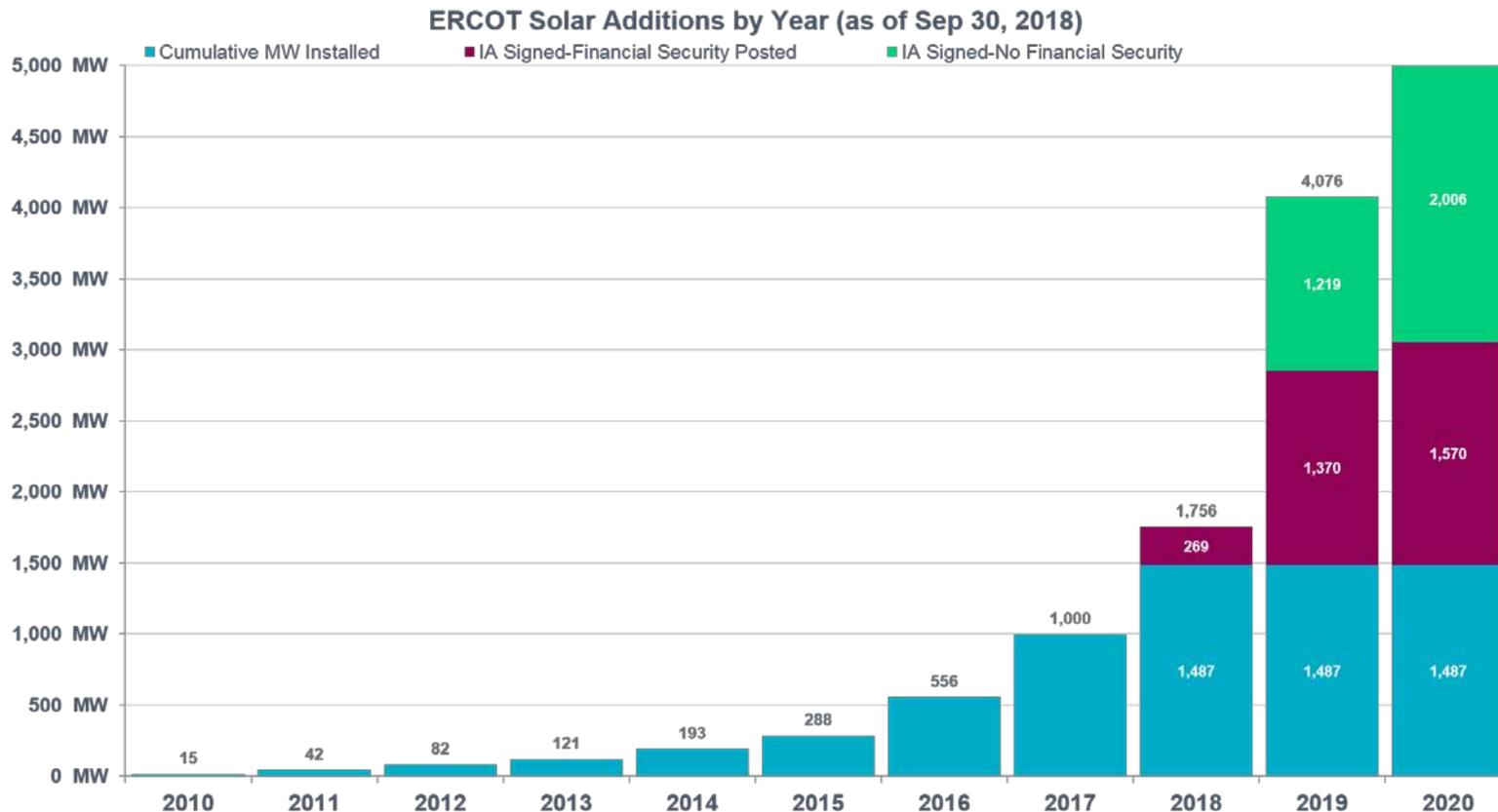


Notes:

- 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 are the original nameplate rating of the generation facilities, and do not reflect retirements or rating changes over time due to facility expansions or repowering.
- 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 – September 2018

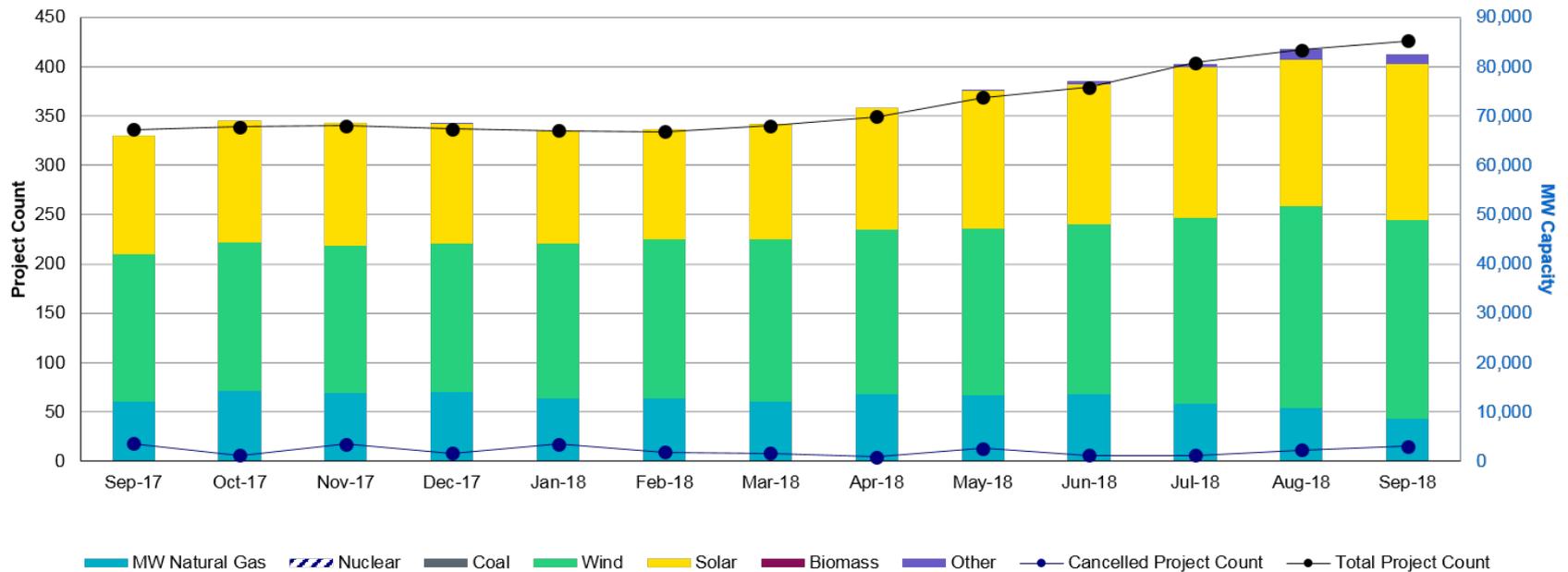


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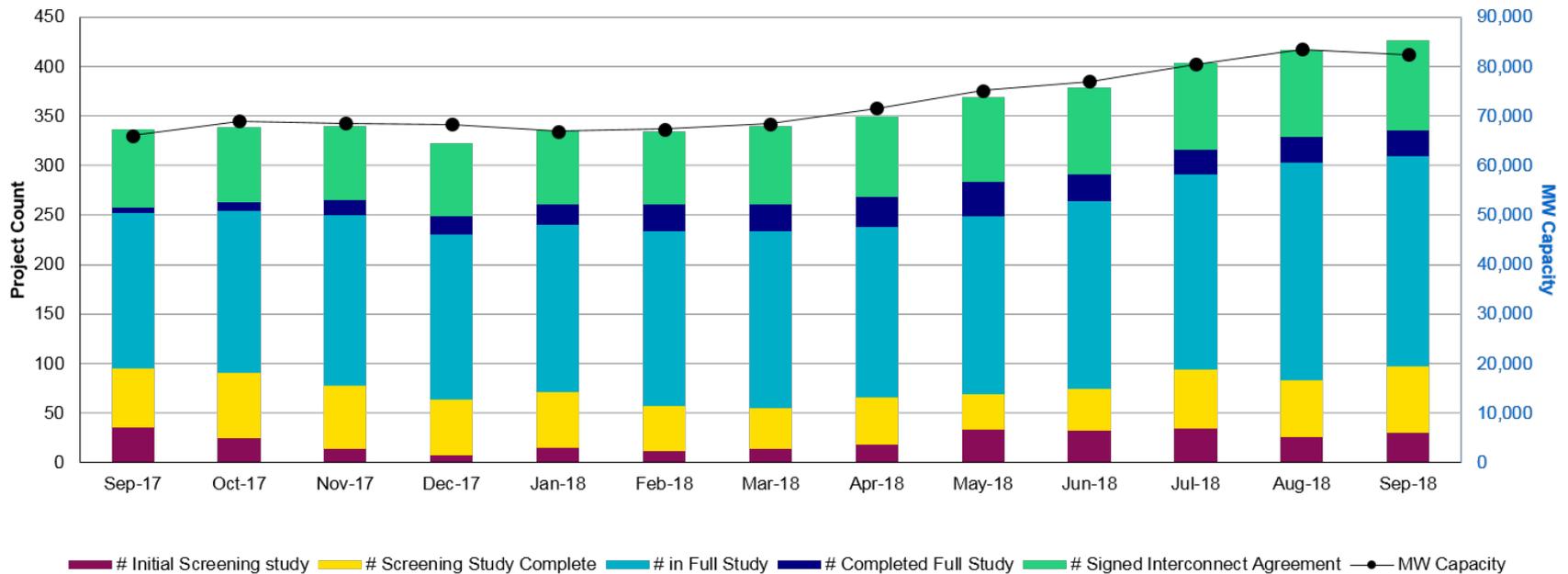
Generation Interconnection Activity by Fuel – September 2018

Monthly Capacity by Fuel Type plus Project Count, 12-Month Rolling Basis



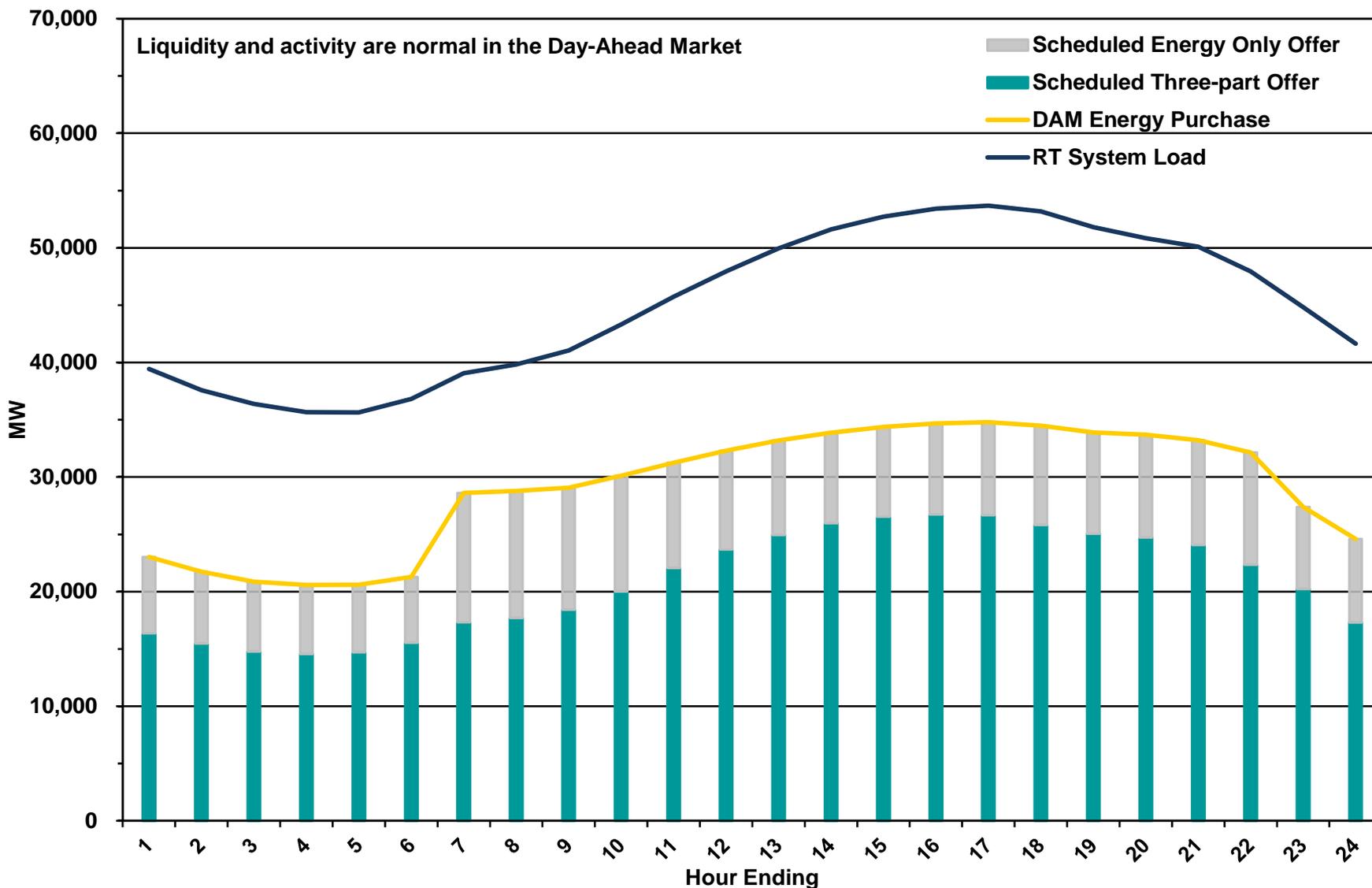
Generation Interconnection Activity by Project Phase – September 2018

Monthly Capacity by GINR Milestone plus Project Count, 12-Month Rolling Basis

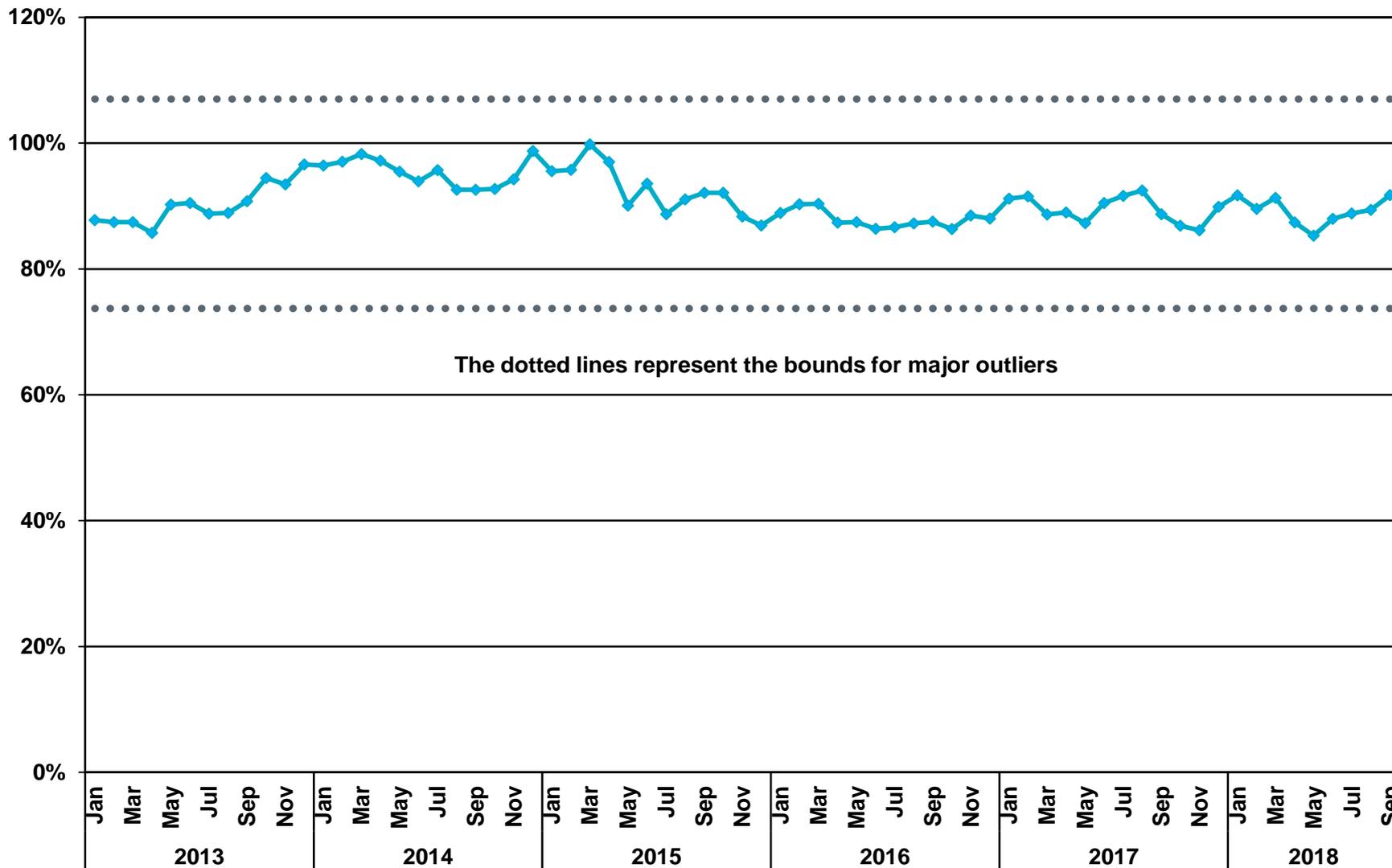


Market Operations

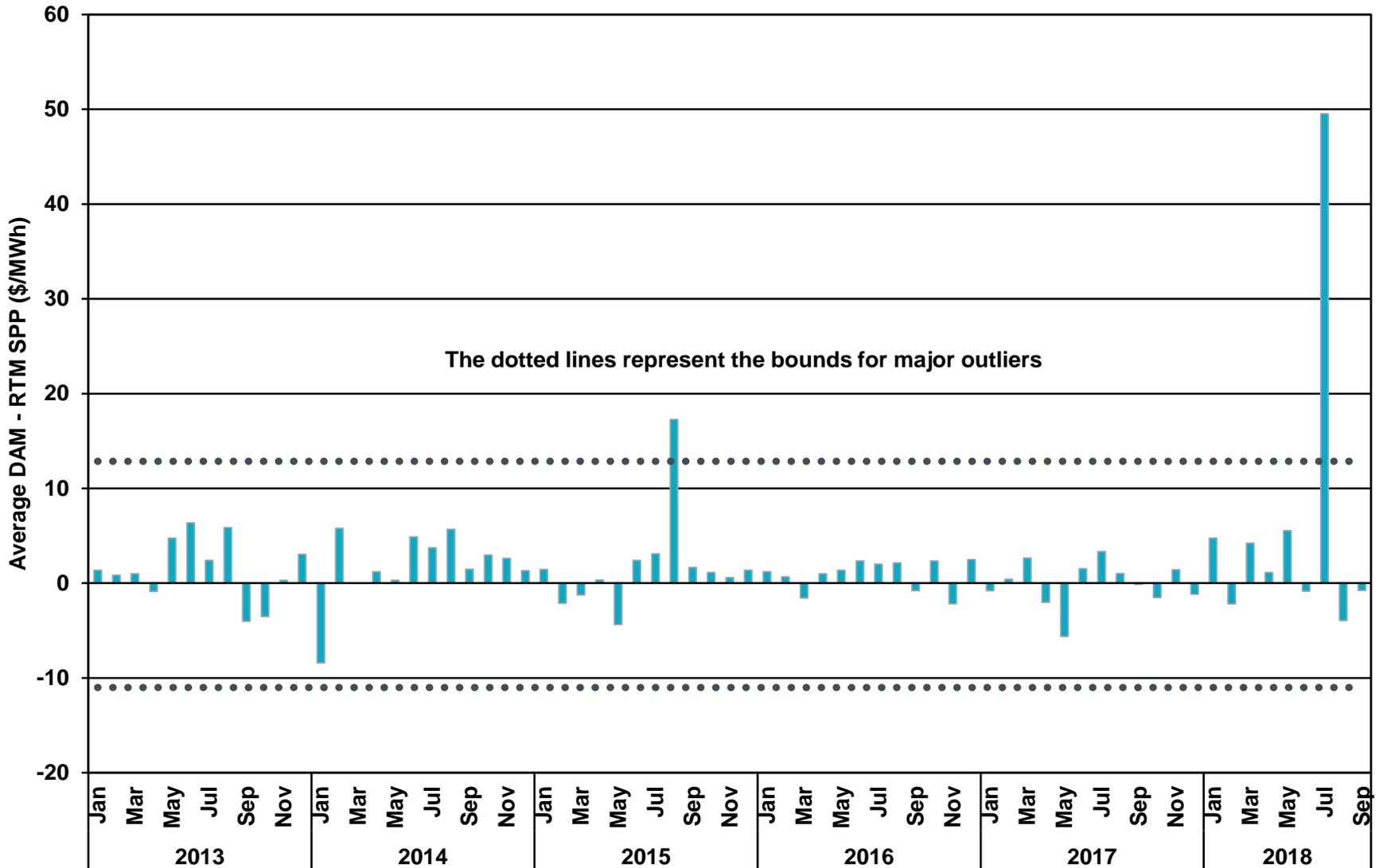
Day-Ahead Schedule (Hourly Average) – September 2018



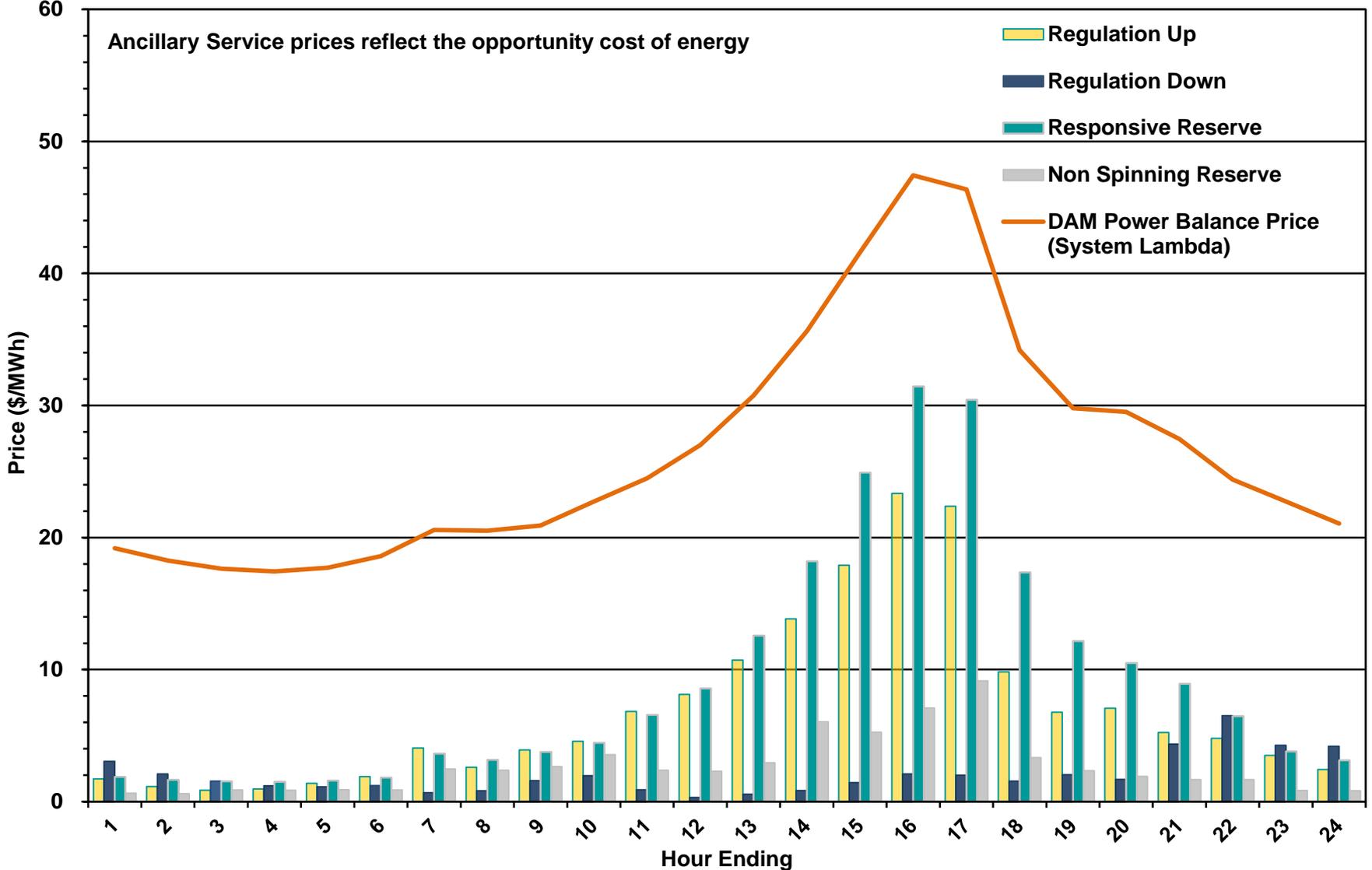
Percentage of Real-Time Load Transacted in the DAM (Counter-Party Level) – September 2018



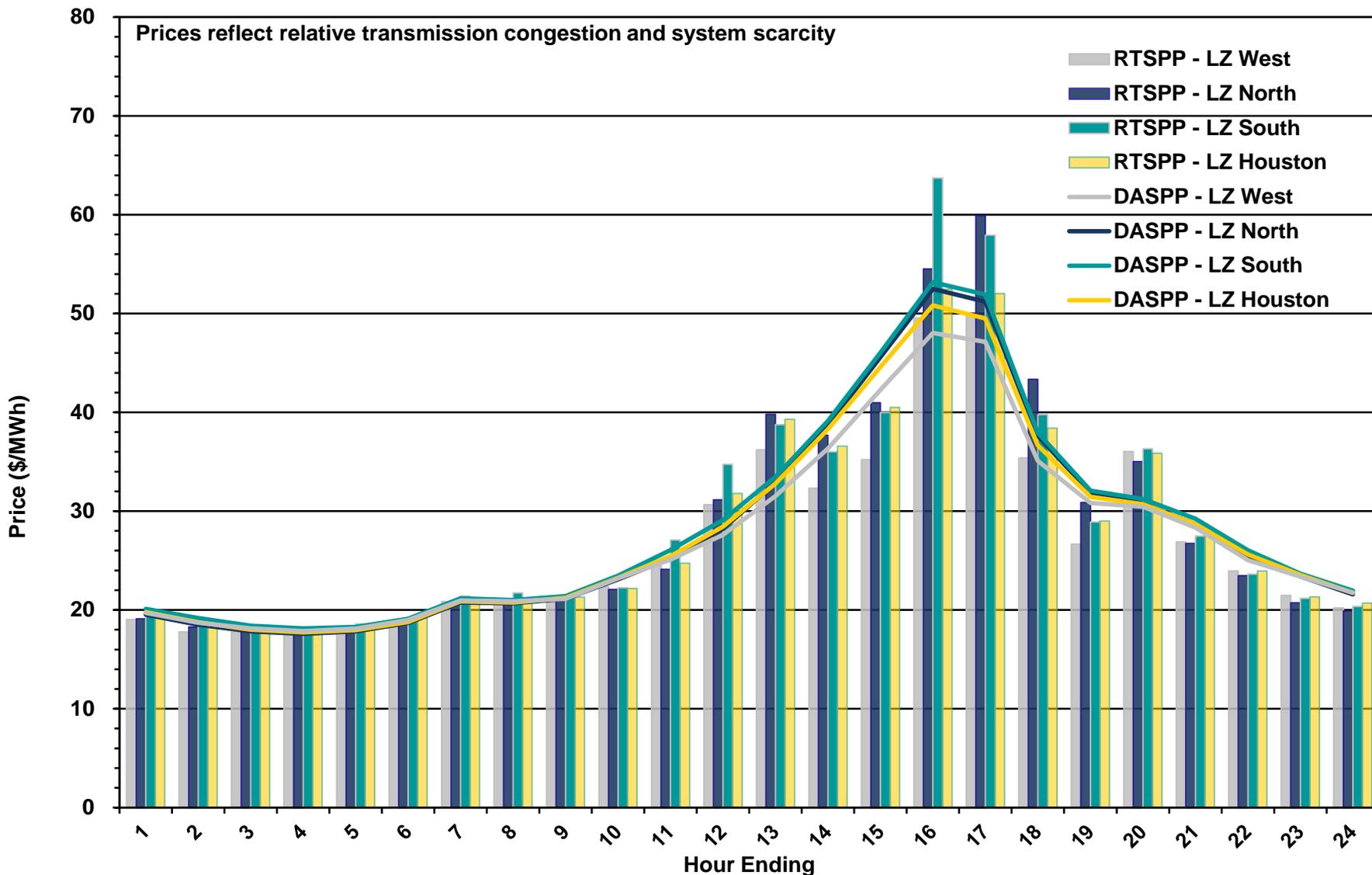
DAM and RTM Price Convergence – September 2018



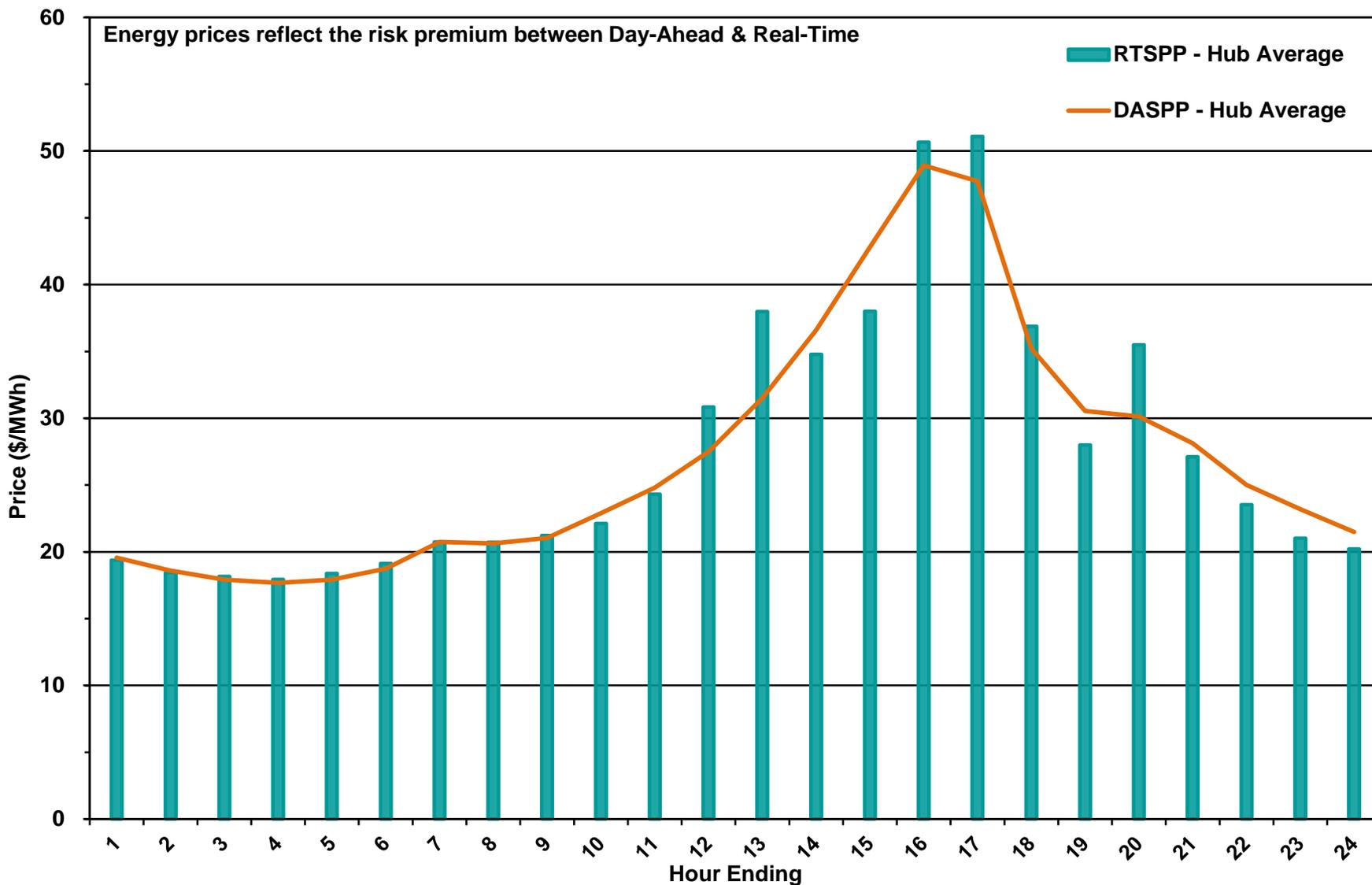
Day-Ahead Electricity and Ancillary Service Prices (Hourly Average) – September 2018



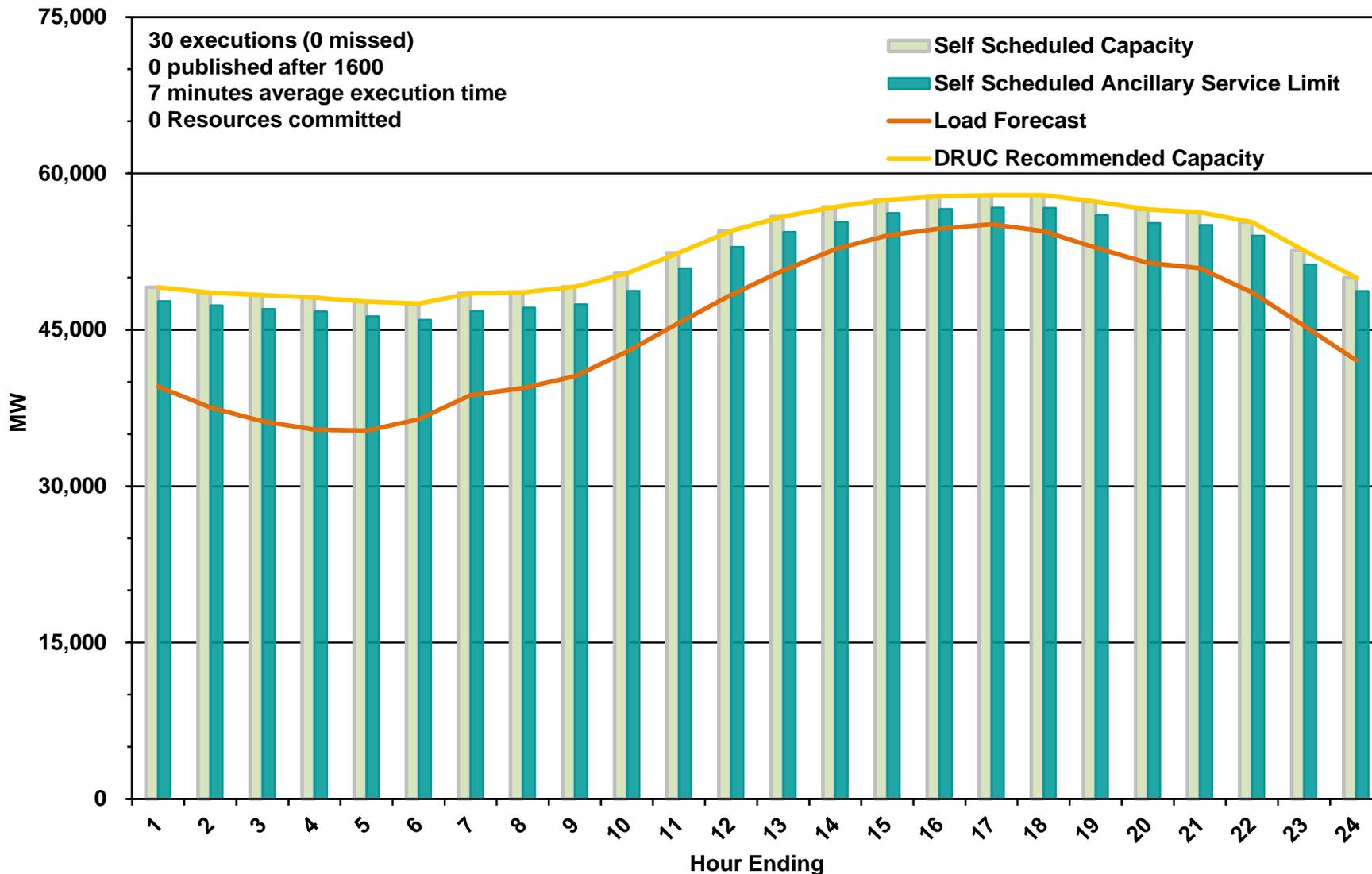
Day-Ahead vs Real-Time Load Zone SPP (Hourly Average) – September 2018



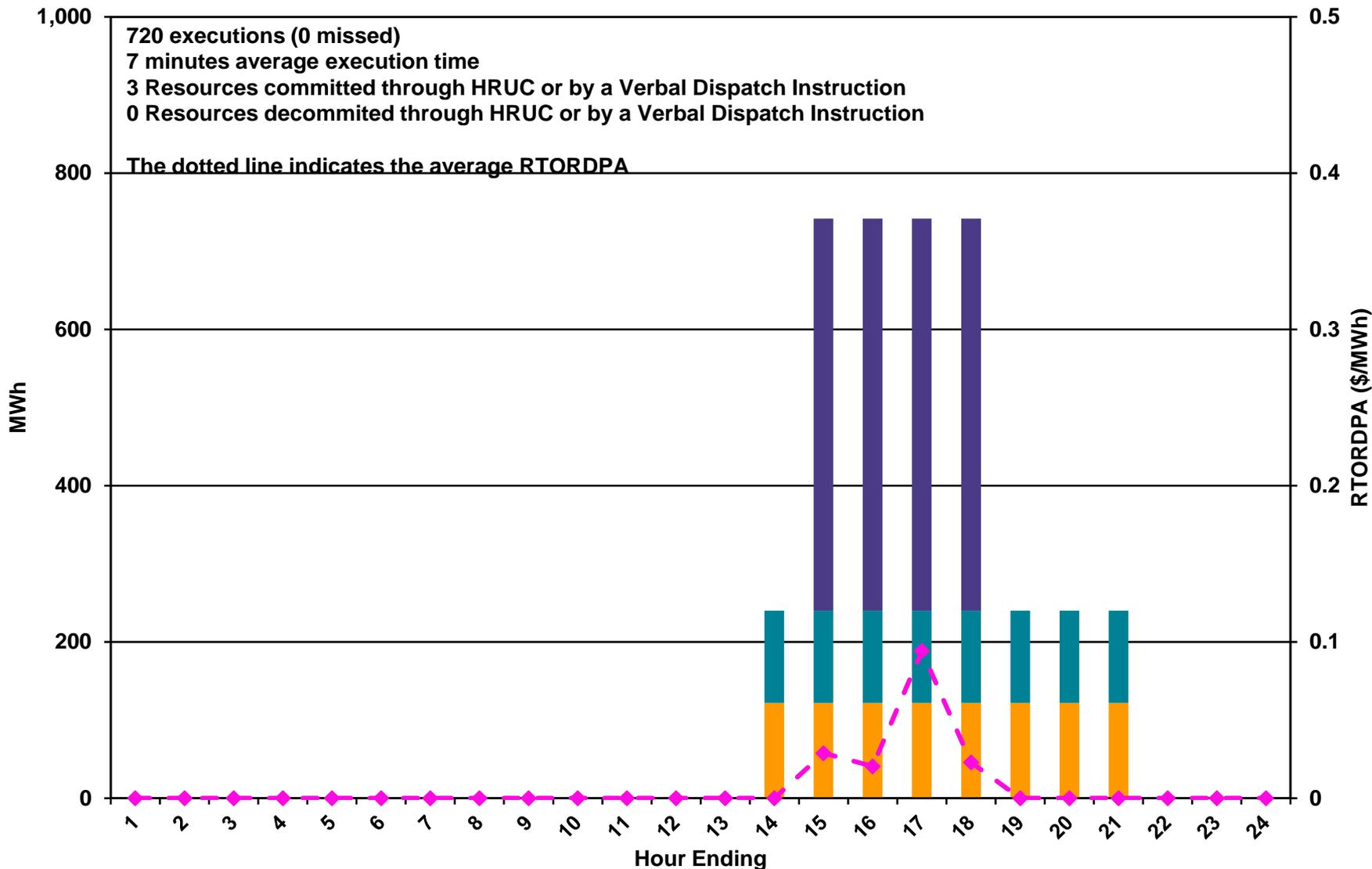
Day-Ahead vs Real-Time Hub Average SPP (Hourly Average) – September 2018



DRUC Monthly Summary (Hourly Average) – September 2018



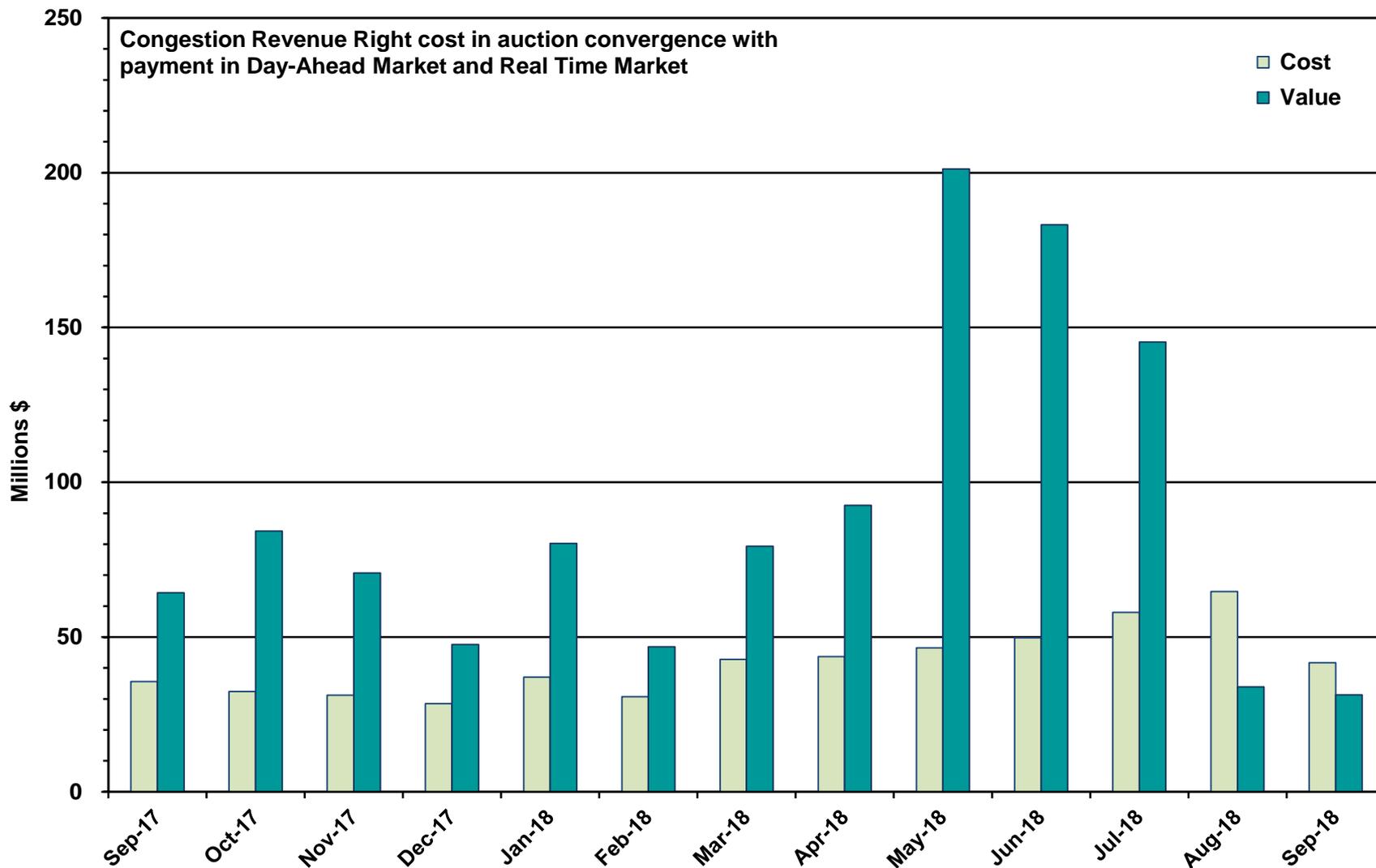
HRUC Monthly Summary and Real Time On-Line Reliability Deployment Price Adder (RTORDPA) (Hourly Average) – September 2018



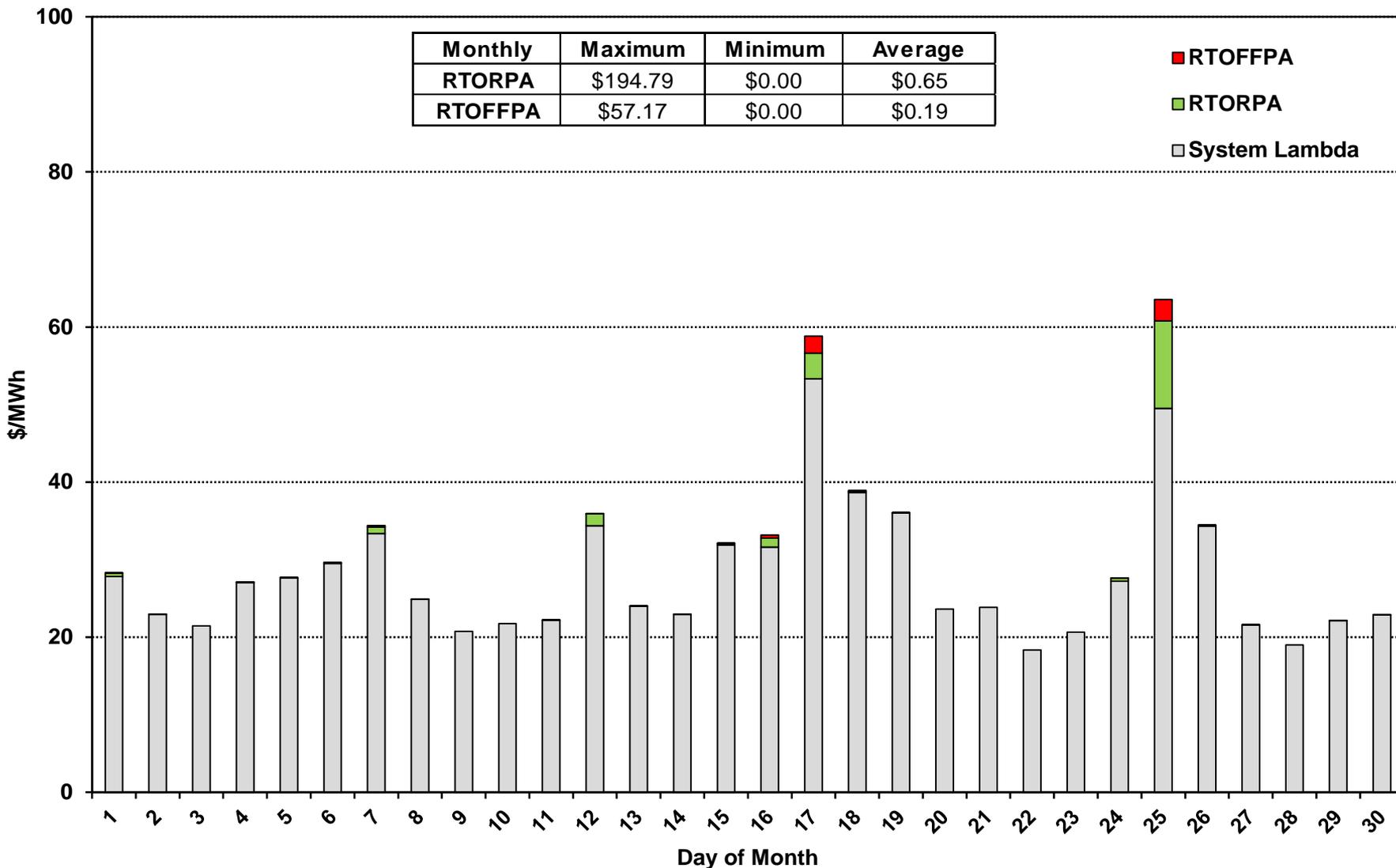
Non-Spinning Reserve Service Deployment – September 2018

Deployment Start Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
N/A				

CRR Price Convergence – September 2018



Daily Average System Lambda and ORDC Price Adders – September 2018



ERS Procurement for June 2018 – September 2018

	TP1	TP2	TP3	TP4	TP5	TP6
Non Weather-Sensitive ERS-10 MW	160.562	165.996	143.324	140.708	156.699	151.138
Non Weather-Sensitive ERS-30 MW	736.864	781.559	702.529	625.067	755.153	657.394
Weather-Sensitive ERS-10 MW	0	0	0	0	0	0
Weather-Sensitive ERS-30 MW	0	0	11.850	11.850	0	0
Total MW Procured	897.426	947.555	857.703	777.625	911.852	808.532
Clearing Price	\$2.01	\$1.85	\$21.08	\$21.77	\$1.99	\$2.25

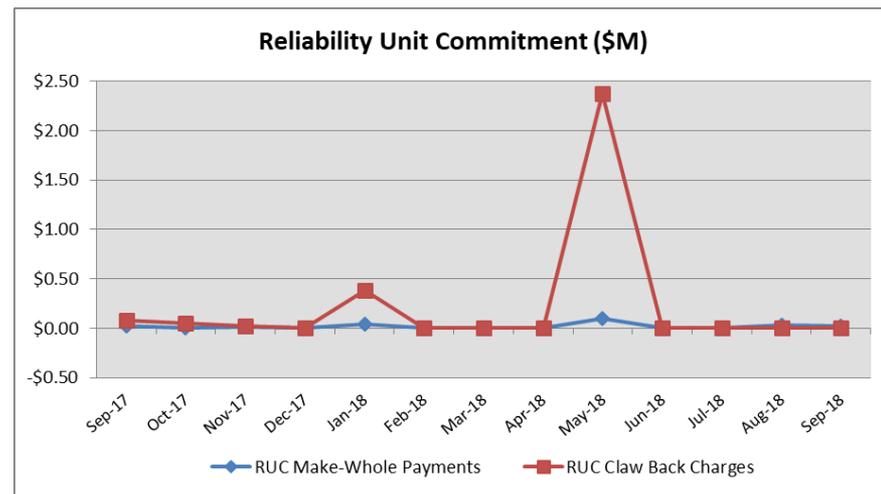
Time Period

Time Period Hours

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

Reliability Services – September 2018

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.02)
RUC Clawback Charges	\$0.00
RUC Commitment Settlement	(\$0.02)
RUC Capacity Short Charges	\$0.02
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.02
RUC Decommitment Payments	\$0.00
Total RUC Allocation to Load	\$0.00



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

- A credit of \$0.00M in August 2018
- A credit of \$0.08M in September 2017

Ancillary and Other Services – September 2018

Ancillary and Other Services	\$ in Millions
Regulation Up Service	\$1.56
Regulation Down Service	\$0.53
Responsive Reserve Service	\$11.34
Non-Spinning Reserve Service	\$3.00
Black Start Service	\$0.58
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges Allocated to Load	\$17.02

In September 2018, Ancillary and Other Services was a charge of \$17.02M, compared to:

- A charge of \$23.83M in August 2018
- A charge of \$17.17M in September 2017

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

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance	(\$394)
Real-Time Reliability Deployment AS Imbalance	(\$12)
Total RTASI Amount Allocated to Load	\$406

In September 2018, Real-Time Ancillary Service Imbalance was a charge to load of \$406K, compared to:

- A charge of \$2,144K in August 2018
- A charge of \$191K in September 2017

Energy Settlement – September 2018

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$605.08
Point to Point Obligation Purchases	\$29.56
Energy Sales	(\$596.64)
Day-Ahead Congestion Rent	\$38.00
Day-Ahead Market Make-Whole Payments	(\$0.06)

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

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$440.31)
Energy Imbalance at a Load Zone	\$797.83
Energy Imbalance at a Hub	(\$319.29)
Net Real-Time Energy Imbalance	\$38.23
Real Time Congestion from Self Schedules	\$0.35
Block Load Transfers and DC Ties	(\$9.92)
Total Impact to Revenue Neutrality	\$28.65
Load-Allocated Emergency Energy Payments	(\$0.08)
Load-Allocated Base Point Deviation Charges	\$0.17

Congestion Revenue Rights (CRR) – September 2018

	\$ in Millions
Long-Term Auction	(\$35.51)
Monthly Auction	(\$6.18)
Total Auction Revenue	(\$41.69)
Day-Ahead CRR Settlements	(\$31.28)
Day-Ahead CRR Short-Charges	\$0.00
Day-Ahead CRR Short-Charges Refunded	\$0.00
Day-Ahead CRR Short-Charges Net	\$0.00
Total CRR Funding	(\$31.28)
Day-Ahead Point-to-Point Obligations	\$29.56
Real-Time Point-to-Point Obligations	(\$35.65)
Net Point-to-Point Obligations	(\$6.08)

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 \$6.08M compared to a net credit of \$19.04M last month.

CRR Balancing Account Fund – September 2018

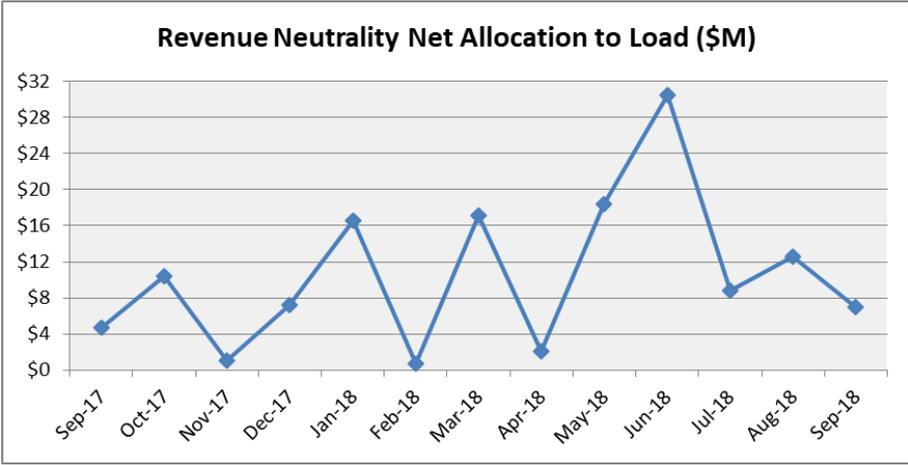
CRR Balancing Account	\$ in Millions
Monthly Day-Ahead Congestion Rent	\$38.00
Monthly Day-Ahead CRR Settlements	(\$31.28)
Monthly Day-Ahead CRR Short -Charges	\$0.00
CRR Balancing Account Credit Total	\$6.73
Beginning Fund Balance for the Month	\$10.00
CRR Balancing Account Credit Total	\$6.73
Day-Ahead CRR Short-Charges Refunded	\$0.00
CRR PTP Option Award Charges	\$0.04
Load-Allocated CRR Amount	(\$6.77)
Total Fund Amount	\$10.00

Revenue Neutrality – September 2018

Revenue Neutrality	\$ in Millions
Real-Time Energy Imbalance	\$38.23
Real-Time Point to Point Obligation	(\$35.65)
Real-Time Congestion from Self-Schedules	\$0.35
DC Tie & Block Load Transfer	(\$9.92)
Allocation to Load	\$7.00

In September 2018, the Revenue Neutrality charge to load was \$7.00M compared to:

- A charge of \$12.61M in August 2018
- A charge of \$4.68M in September 2017

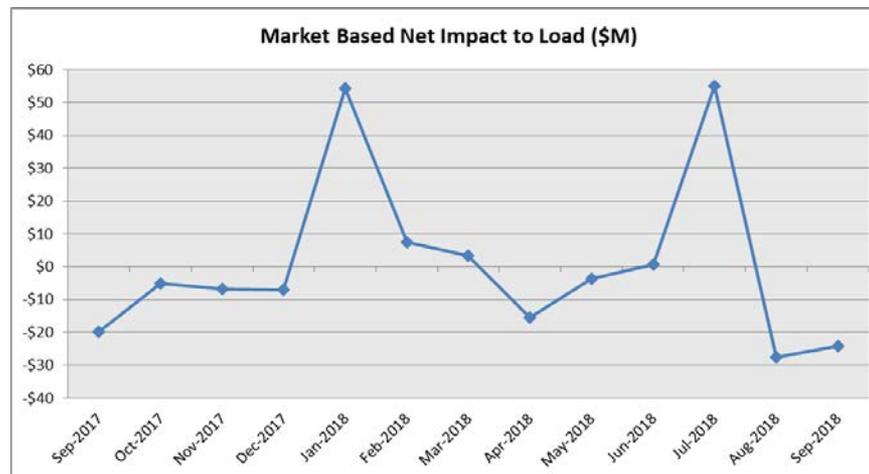


Net Allocation to Load – September 2018

Market-Based Allocation	\$ in Millions
Reliability Unit Commitment	\$0.00
Ancillary and Other Services	\$17.02
Real-Time Ancillary Service Imbalance	\$0.41
Emergency Energy	\$0.08
Base Point Deviation	(\$0.17)
CRR Auction Revenue	(\$41.69)
CRR Balancing Account	(\$6.77)
Real-Time Revenue Neutrality	\$7.00
Reliability Must Run	\$0.00
Monthly Block Load Transfer	\$0.00
Total	(\$24.13)
Fee Allocation	
ERCOT Administrative Fee	\$18.11
Net Allocated to Load	(\$6.02)

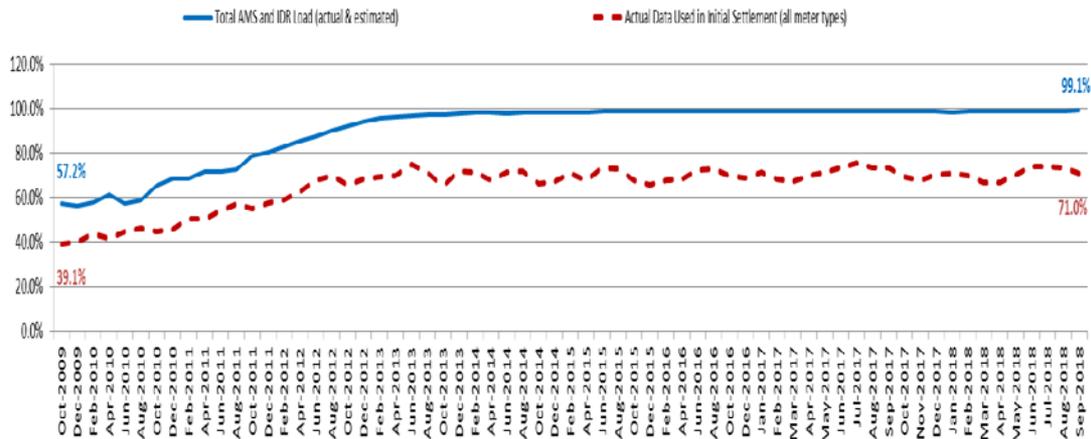
In September 2018, the Net Allocation to load was a credit of \$6.02M compared to:

- A credit of \$5.78M in August 2018
- A credit of \$1.88M in September 2017



Advanced Meter Settlement Impacts – September 2018

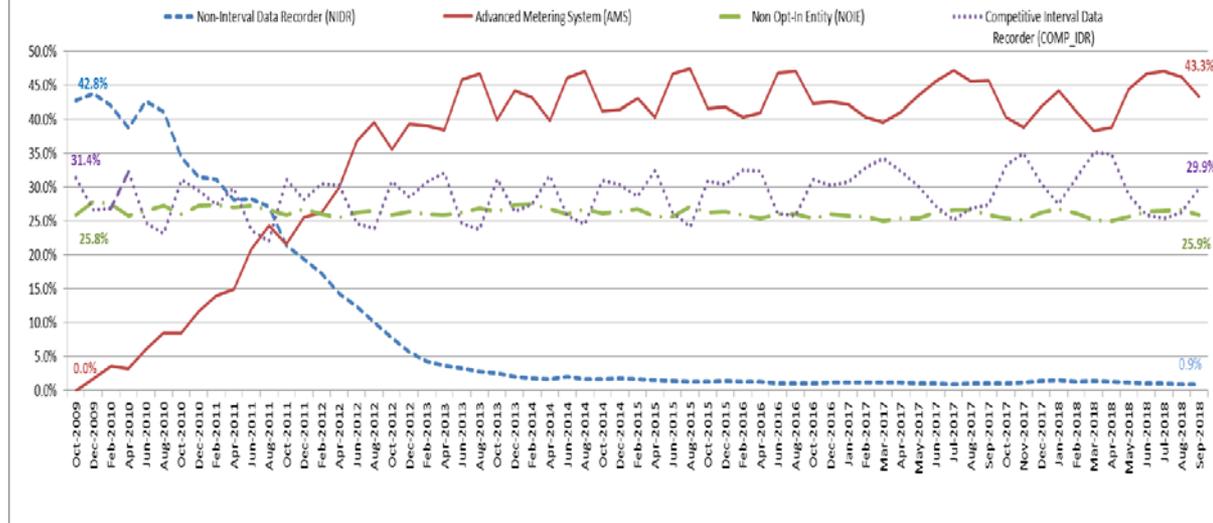
Percent Actual/Percent Interval Data Recorder (IDR)



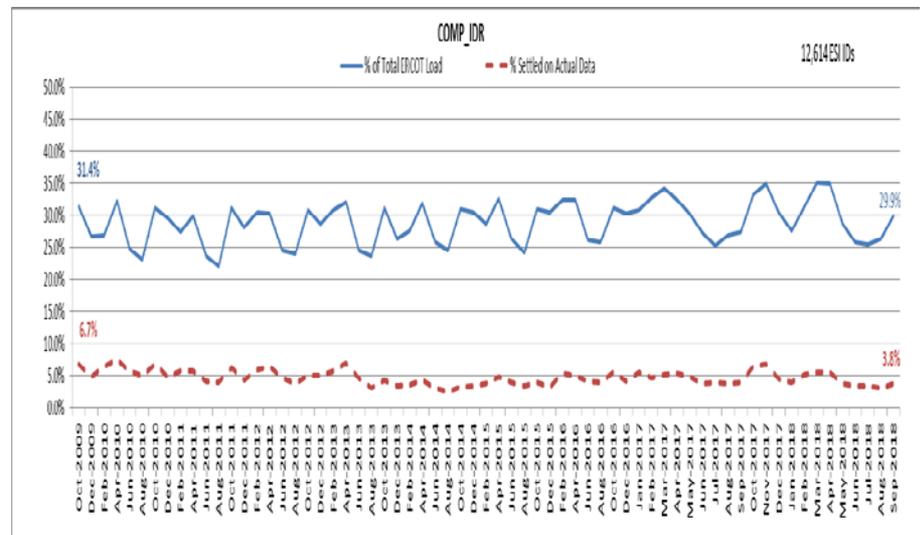
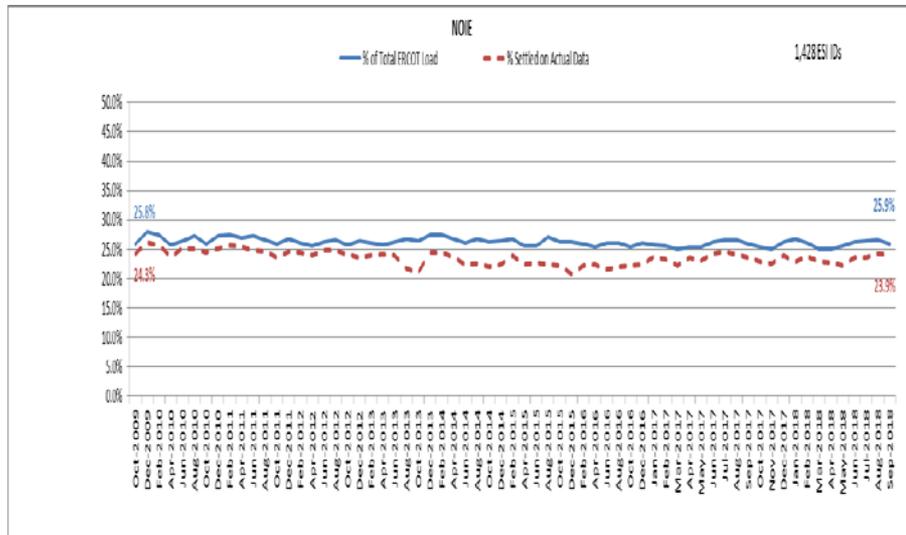
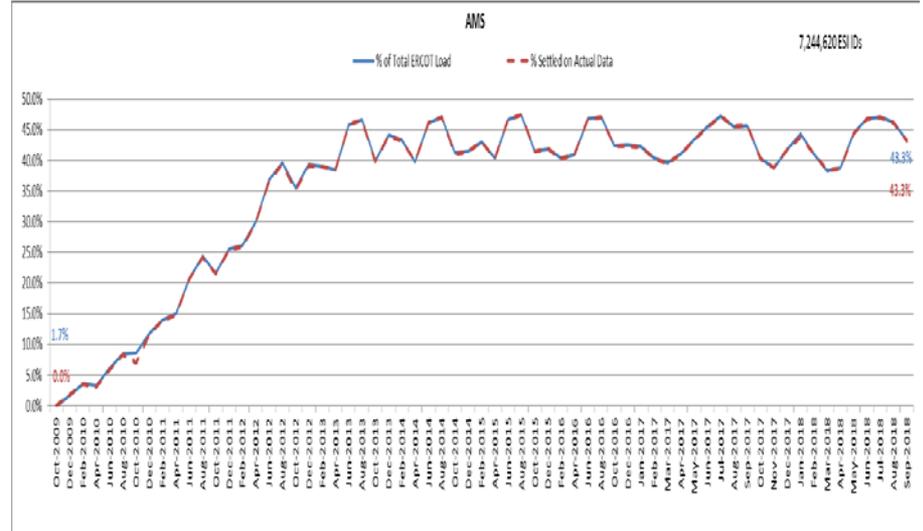
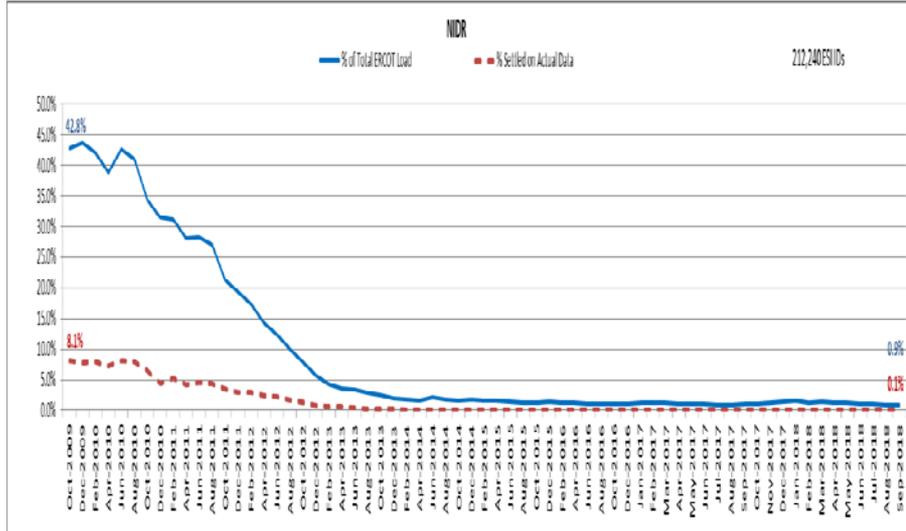
September 2018: At month end, settling 7.2M ESIIDs using Advanced Meter data.

September 2018: 99.1% 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 – September 2018

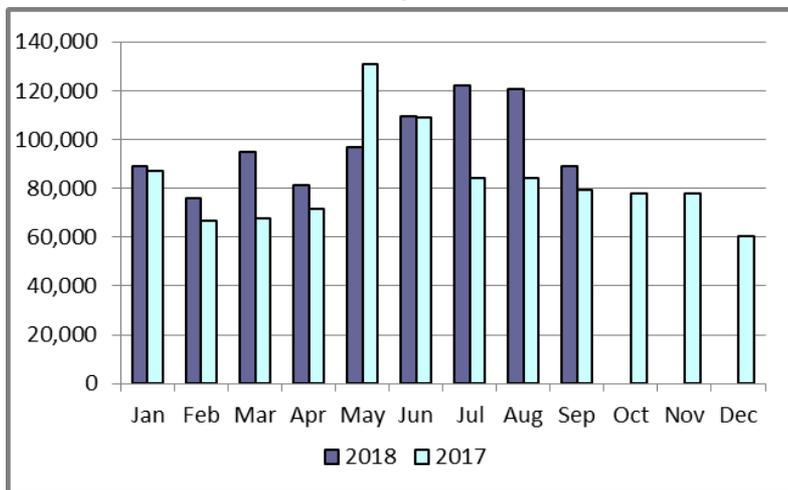


Retail Transaction Volumes – Summary – September 2018

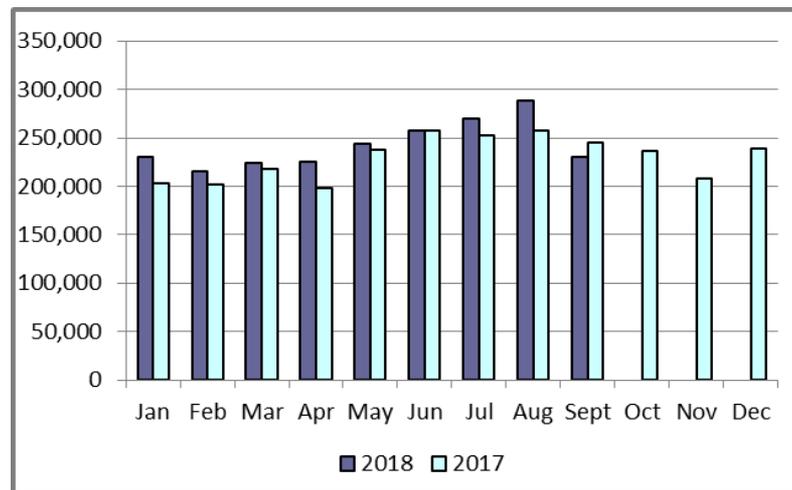
Transaction Type	Year-To-Date		Transactions Received	
	September 2018	September 2017	September 2018	September 2017
Switches	879,854	780,936	89,078	79,502
Acquisition	0	0	0	0
Move - Ins	2,185,607	2,070,710	230,635	244,511
Move - Outs	1,053,091	1,059,986	107,043	129,103
Continuous Service Agreements (CSA)	493,169	365,472	37,663	41,597
Mass Transitions	9,034	0	0	0
Total	4,620,755	4,277,104	464,419	494,713

Retail Transaction Volumes – Summary – September 2018

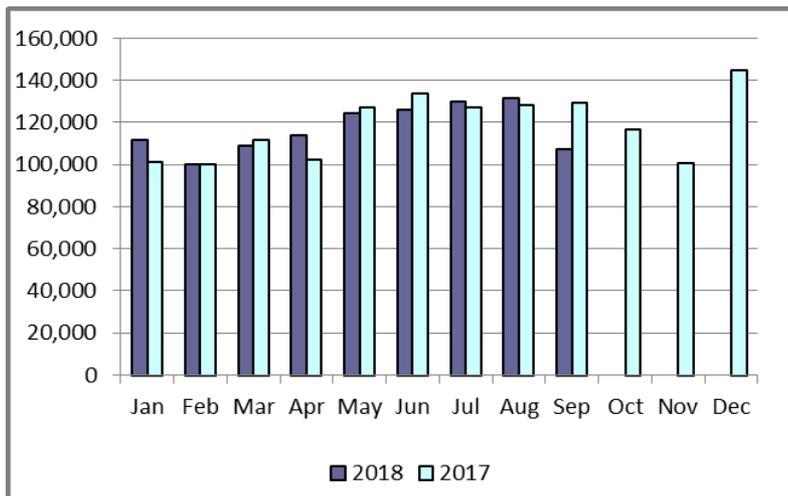
Switches/Acquisitions



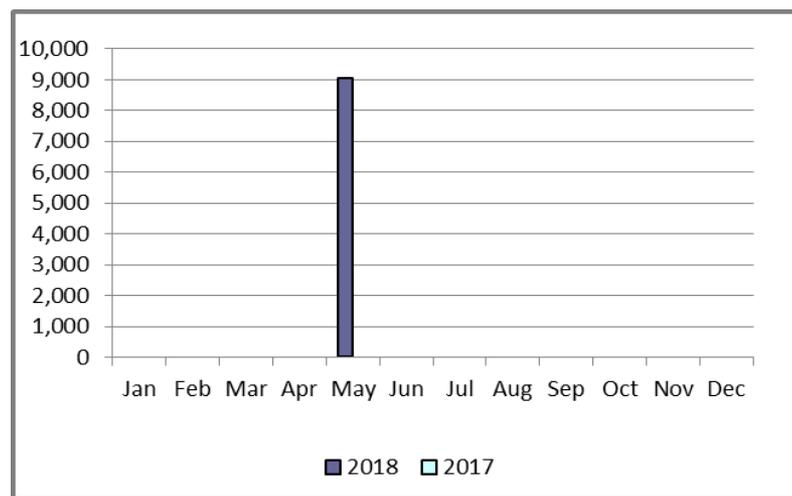
Move-Ins



Move-Outs



Mass Transition



Projects Report

ERCOT Portfolio Stoplight Report – September 2018

Impact Metric Tolerances	2018 Project Funding	\$20,000,000	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 = 82)		\$ 21,462,649
	Projects Not Yet Started (Count = 12)		\$ 291,077
	Projects Completed (Count = 65)		\$ 2,575,695
	Spending Reductions Required to Maintain Capital Budget		\$ (4,329,421)
	TOTAL		\$ 20,000,000

Project Number	Projects in Initiation Phase (Count = 2)
293-01	Governance, Risk and Compliance (GRC) Replacement Tool
209-04	GridGeo MMAP Assessment

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

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
134-02	Privileged Account Management (PAM) Phase 2	8/8/2018	12/19/2018	12/19/2018	TBD	12/19/2018	0%	21%
183-01	CMM-FT GUI Integration	12/16/2015	8/17/2016	TBD	TBD	TBD	0%	NA See 2015 CMM NPRRs
209-03	Study Network (STNET) Integration	9/27/2018	11/7/2018	11/7/2018	TBD	11/7/2018	0%	3%
242-01	Portfolio Reporting Assessment	11/8/2017	12/19/2018	12/19/2018	TBD	12/19/2018	0%	10%
286-01	Java Platform Assessment	6/20/2018	11/21/2018	11/21/2018	TBD	11/21/2018	0%	34%
288-00	Retail Portfolio Refresh (RPR) Program Control	9/5/2018	3/27/2019	3/27/2019	TBD	3/27/2019	0%	13%
288-01	EDI Map and Translator Replacement	8/29/2018	2/27/2019	2/27/2019	TBD	2/27/2019	0%	12%
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
NPRR842	Study Area Load Information	8/29/2018	9/26/2018	9/26/2018	TBD	10/17/2018	1 -75%	5%



ERCOT Portfolio Stoplight Report – September 2018

Project Number	Projects in Execution Phase (Count = 36)	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	3/27/2019	3/27/2019	3/27/2019		0%		0%
170-06	ECAP - ECMS Implementation Phase 1	4/25/2018	11/30/2018	1/14/2019	1/14/2019	3/31/2019		0%		1%
173-02	ERCOT Flight Certification Website	11/15/2017	2/28/2019	2/28/2019	2/28/2019	5/31/2019		0%		0%
181-01	CRR Framework Upgrade	10/26/2016	10/2/2017	11/19/2018	11/19/2018	2/27/2019		0%		2%
183-01	CMM Tech Refresh	3/15/2017	5/19/2018	12/11/2018	TBD	12/31/2018	2		NA	See 2015 CMM NPRRs
193-01	PMU Tool Evaluation and Implementation	12/13/2017	8/9/2018	2/15/2019	2/15/2019	3/20/2019		0%		8%
196-01	GINR Project Status Application Replacement	12/21/2016	9/14/2017	2/28/2019	2/28/2019	3/31/2019		0%		-3%
209-02	Weather Imaging and Line Observation (WILO)	5/30/2018	2/1/2019	2/1/2019	2/1/2019	2/27/2019		0%		-3%
210-01	REC Technology Refresh	8/30/2017	3/18/2018	12/13/2018	12/13/2018	1/16/2019		0%		1%
228-01	Enterprise Database Upgrade	8/8/2018	1/29/2020	1/29/2020	1/29/2020	1/29/2020		0%		18%
229-01	IT Change and Configuration Management Phase 2	8/2/2017	6/19/2018	2/8/2019	2/8/2019	3/25/2019		0%		0%
238-01	Application Authentication Tech Refresh	9/6/2017	3/19/2018	12/13/2018	12/13/2018	1/30/2019		0%		14%
239-01	Identity and Access Management	5/9/2018	12/15/2018	6/19/2019	6/19/2019	7/30/2019		0%		0%
244-01	Corporate Wireless	11/29/2017	3/28/2018	12/5/2018	12/5/2018	1/9/2019		0%		0%
245-01	2017 EPS Metering Enhancements	6/27/2018	8/9/2019	8/9/2019	8/9/2019	9/25/2019		0%		9%
246-01	iTest Data Refresh	12/13/2017	11/9/2018	11/15/2018	11/15/2018	1/2/2019		0%		17%
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%		24%
261-01	Generic Transmission Constraint Calculation	3/7/2018	12/13/2018	12/13/2018	12/13/2018	1/23/2019		0%		2%
263-01	Market Simulator	4/11/2018	12/13/2018	12/13/2018	12/13/2018	1/30/2019		0%		13%
265-01	Real-Time Assessment Continuity	1/31/2018	12/13/2018	12/13/2018	12/13/2018	1/30/2019		0%		7%
279-01	Cyber Security Project #24	6/27/2018	10/26/2018	11/30/2018	11/30/2018	2/27/2019		0%		1%
280-01	Quest Software Portfolio Transition	4/4/2018	6/27/2018	11/7/2018	11/7/2018	11/7/2018		0%		0%
282-01	Synchronous Condenser Outage Modeling	6/6/2018	10/25/2018	10/25/2018	10/25/2018	12/5/2018		0%		29%
Various	2015 CMM NPRRs								2	-13%
NPRR519	Exemption of ERS-Only QSEs from Collateral and Capitalization Requirements	3/15/2017	5/19/2018	12/11/2018	TBD	10/31/2019	2			See 2015 CMM NPRRs
NPRR620	Collateral Requirements for Counter-Parties with No Load or Generation	3/15/2017	5/19/2018	12/11/2018	TBD	10/31/2019	2		NA	See 2015 CMM NPRRs
NPRR660	Remove CRR State Change Adder	3/15/2017	5/19/2018	12/11/2018	TBD	10/31/2019	2		NA	See 2015 CMM NPRRs
NPRR741	Clarifications to TPE and EAL Credit Exposure Calculations	3/15/2017	5/19/2018	12/11/2018	TBD	10/31/2019	2		NA	See 2015 CMM NPRRs
NPRR749	Option Cost for Outstanding CRRs	8/8/2018	12/13/2018	12/13/2018	TBD	10/31/2019	2		NA	See 2015 CMM NPRRs



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Project Number	Projects in Execution Phase (Count = 36)	Phase Start	Baseline Go-Live Date	Approved Go-Live Date	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
NPRR755	Data Agent-Only QSE Registration	3/15/2017	5/19/2018	12/11/2018	TBD	12/31/2018	2		NA	See 2015 CMM NPRRs
NPRR833	Modify PTP Obligation Bid Clearing Change	8/8/2018	12/13/2018	12/13/2018	12/13/2018	TBD		0%		-2%
NPRR843	Short-Term System Adequacy and AS Offer Disclosure Reports Additions	7/18/2018	10/25/2018	12/13/2018	12/13/2018	1/16/2019		0%		8%
NPRR864	RUC Modifications to Consider Market-Based Solutions	6/20/2018	10/25/2018	10/25/2018	10/25/2018	11/28/2018		0%		21%
SCR777	Bilateral CRR Interface Enhancement	10/26/2016	10/2/2017	11/19/2018	11/19/2018	2/27/2019		0%	NA	See #181-01
SCR781	RARF Replacement	12/20/2017	4/25/2018	12/19/2018	12/19/2018	12/19/2018		0%		3%
SCR795	Addition of Intra-Hour Wind Forecast to GTBD Calculation	8/8/2018	10/25/2018	10/25/2018	10/25/2018	11/14/2018		0%		8%
Project Number	Expedited Projects in Execution (Count = 22)									
Project Number	Projects in Stabilization (Count = 7)	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
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
259-01	DC SCADA and Metering Upgrade	10/25/2017	1/17/2018	7/25/2018	7/25/2018	12/8/2018		0%		2%
266-01	Remote Email Access Enhancement	12/13/2017	3/7/2018	6/6/2018	6/19/2018	10/31/2018	2	-7%	2	-24%
Project Number	Projects On Hold (Count = 5)	Forecast Start Date	Baseline Phase Finish	Approved Go-Live Target	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health		Budget Health	
SCR789	Update NMMS Topology Processor to PSSE 34 Capability									0%
269-01	Document Repository Redesign and Governance Implementation - Phase 1									1%
287-01	Security Constrained Unit Commitment (SCUC)									3%
291-01	IT Asset Recovery									21%
292-01	Additional Branch Limit for Relays									0%



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Project Number	Projects Completed (Count = 30)	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%
198-02	Reactive Power Coordination PoC	9/6/2017	6/16/2018	8/15/2018	8/22/2018	8/22/2018	-2%	54%
209-01	Multi Station Breaker to Breaker One Lines	2/8/2017	3/9/2018	5/3/2018	5/3/2018	9/19/2018	0%	2
224-01	TelAlert Replacement	4/5/2017	6/27/2017	8/4/2017	8/4/2017	5/9/2018	0%	5%
230-01	SAS Technical Architecture Redesign	3/1/2017	12/13/2017	12/13/2017	12/13/2017	6/27/2018	0%	2%
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%	19%
241-01	AREA - Generation	10/11/2017	3/30/2018	8/9/2018	8/9/2018	9/5/2018	0%	-3%
249-01	Secondary Wind Forecasting Service	8/30/2017	2/28/2018	8/9/2018	8/9/2018	9/5/2018	0%	6%
253-01	CIP Recovery Plan Project - Planning Phase 1	1/31/2018	8/29/2018	8/29/2018	9/5/2018	9/5/2018	-3%	2%
254-01	Retail Windows Upgrade	10/11/2017	12/18/2017	12/18/2017	1/22/2018	2/7/2018	1	-51%
255-01	Settlements Architecture Enhancements	10/25/2017	1/11/2018	1/11/2018	1/19/2018	2/14/2018	1	-10%
258-01	WD Kainos SMART Automation Testing Tool	4/11/2018	6/4/2018	6/4/2018	6/6/2018	7/18/2018	-3%	27%
260-01	Information Governance Assessment	10/18/2017	5/30/2018	9/19/2018	TBD	9/19/2018	0%	8%
271-01	Issue Tracking and Resolution Tool Assessment	12/13/2017	4/25/2018	4/25/2018	TBD	5/2/2018	1	-5%
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%
274-01	Average Mid-Term Load Forecast	3/7/2018	5/31/2018	5/31/2018	5/31/2018	6/27/2018	0%	49%
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%	2
NPRR776	Voltage Set Point Communication	9/20/2017	3/19/2018	4/5/2018	4/5/2018	9/5/2018	0%	-3%
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
NPRR815	Revise the Limitation of Load Resources Providing Responsive Reserve (RRS) Service	3/21/2018	5/31/2018	5/31/2018	5/31/2018	8/29/2018	0%	4%
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%	36%
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%
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
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%	54%
SCR792	Enhance Communications of BAAL Exceedances	2/14/2018	4/5/2018	4/5/2018	4/5/2018	4/25/2018	0%	69%



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Project Number	Expedited Projects Completed (Count = 35)	
Project Number	2018 Projects Not Yet Started (Count = 15)	Forecast Start Date
NPRR817	Create a Panhandle Hub	Oct-2018
NPRR821	Elimination of the CRR Deration Process	Oct-2018
NPRR847	Exceptional Fuel Cost Included in the Mitigated Offer Cap	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
NPRR866	Mapping Registered Distributed Generation and Load Resources to Transmission Loads in the Network Operations Model	Oct-2018
NPRR877	Use of Actual Interval Data for IDR ESI IDs for Initial Settlement - Phase 1	Oct-2018
NPRR880	Publish Real-Time Market Shift Factors for Private Use Network Settlement Points	Oct-2018
PGRR061	PGRR Related to NPRR866, Mapping Registered Distributed Generation and Load Resources to Transmission Loads in the Network Operations Model	Oct-2018
RRGRR017	RRGRR Related to NPRR866, Mapping Registered Distributed Generation and Load Resources to Transmission Loads in the Network Operations Model	Oct-2018
SCR793	SSR Related Telemetry for Transmission Service Provider (TSP) Operators	Oct-2018
VCMRR022	Determination of Fuel Adder Price for Coal and Lignite Resources	Oct-2018
ECAP	ECAP - ECMS Implementation Phase 2	Nov-2018
TBD	2018 OS Enhancements	Nov-2018
NPRR873	Posting of the ERCOT Wide Intra-Hour Wind Power and Load Forecast on the MIS Public	Dec-2018