

ERCOT Monthly Operational Overview (August 2018)

ERCOT Public September 15, 2018

Grid Planning & Operations



Summary – August 2018

Operations

- The preliminary Settlements hourly peak demand of 69,889* MW on August 23 was lower than the day-ahead mid-term load forecast peak of 70,748 MW for the same operating hour.
 - The operational instantaneous peak demand was 69,982 MW (telemetry).
- Day-ahead load forecast error for August was 1.64%
- ERCOT issued 9 notifications:
 - Three Advisories issued due to Physical Responsive Capability being below 3000 MW
 - Three DC Tie-related Watches
 - Three OCN issued for projected reserve capacity shortage

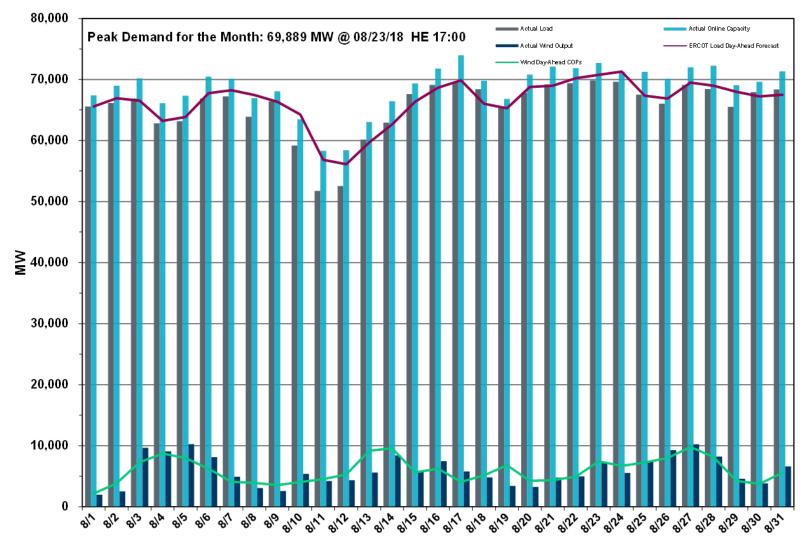
Planning Activities

- 417 active generation interconnection requests totaling 83,491 MW, including 40,851 MW of wind generation, as of August 30, 2018. Thirteen additional requests and an increase of 3,639 MW from July 31, 2018.
- 21,190 MW wind capacity in commercial operations as of September 1, 2018.

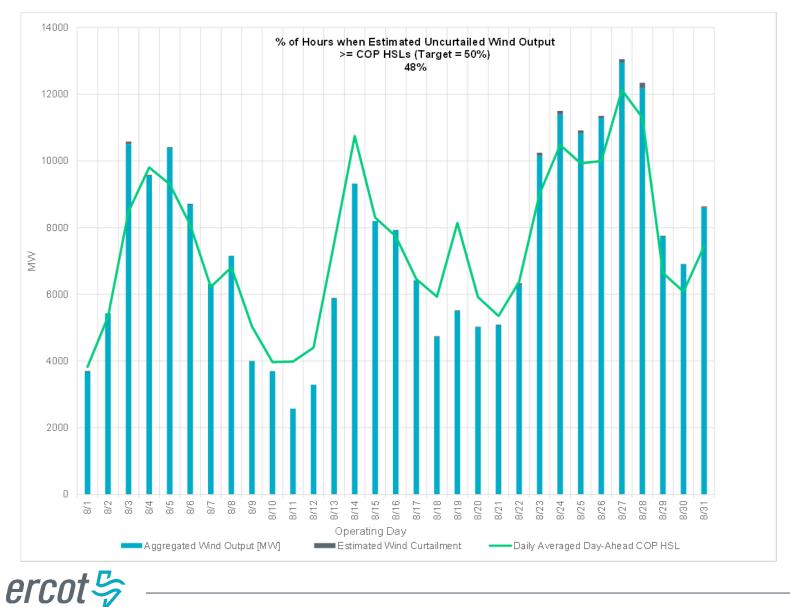


*Per Demand and Energy Report as of 09/07/18

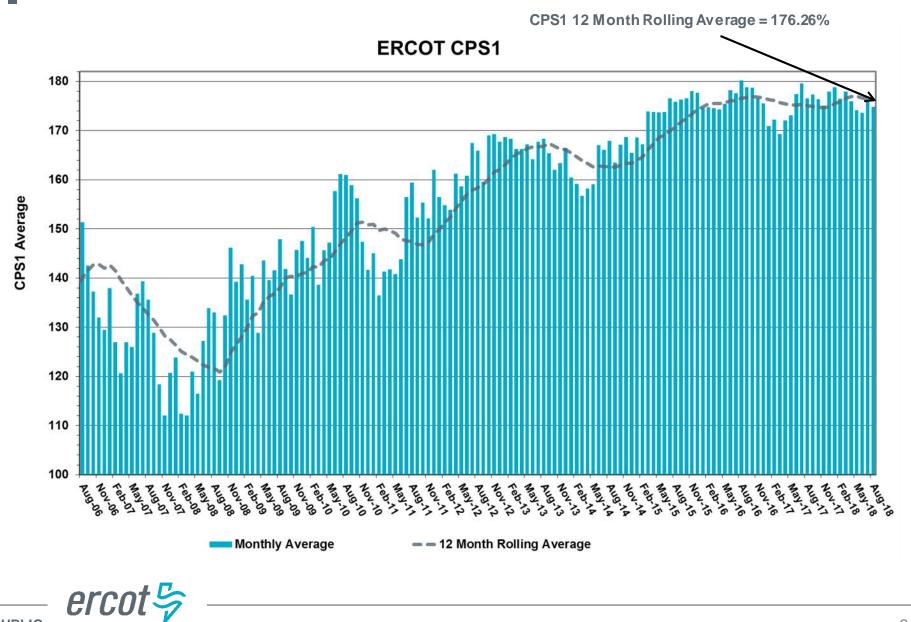
Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-Line Capacity at Peak – August 2018



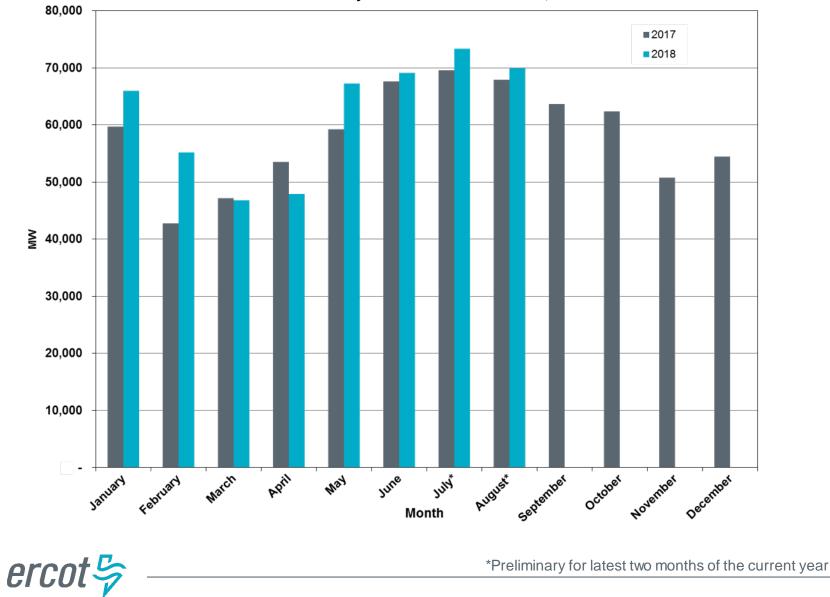
Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours – August 2018



ERCOT's CPS1 Monthly Performance – August 2018

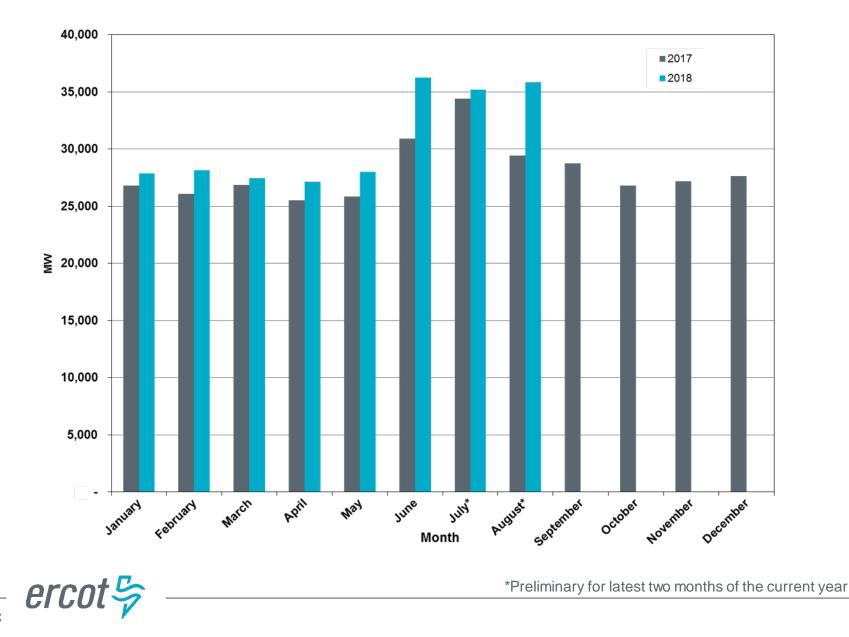


Monthly Peak Actual Demand – August 2018



Monthly Peak Actual Demand = 69,889 MW @ 08/23/18 HE 17:00

Monthly Minimum Actual 15-Minute Demand – August 2018

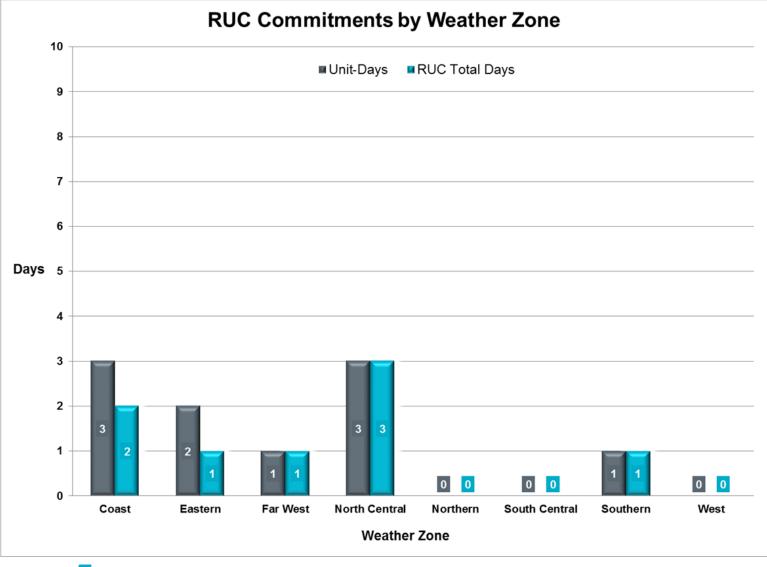


Day-Ahead Load Forecast Performance – August 2018

	2015	2016	2017	2018	Augus	t 2018
	MAPE	MAPE	MAPE	MAPE	MA	PE
Average Annual MAPE	2.86	2.62	2.55	2.29	1.4	64
Lowest Monthly MAPE	1.89	1.94	1.69	1.64	Lowest Daily MAPE	0.4 0 Aug 5
Highest Monthly MAPE	3.81	3.86	4.07	3.66	Highest Daily MAPE	5.82 Aug 10



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



Generic Transmission Constraints (GTCs) – August 2018

GTCs	Aug-17 Days GTCs	Jun-18 Days GTCs	Jul-18 Days GTCs	Aug-18 Days GTCs	Last 12 Months Total Days (Sep 17 – Aug 18)
North – Houston	0	1	0	0	8
Valley Import	1	0	1	0	14
Panhandle	7	23	5	12	266
Red Tap	0	0	0	0	0
North Edinburg – Lobo	0	0	0	0	1
Nelson Sharpe – Rio Hondo	-	2	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.

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Advisories and Watches – August 2018

- One OCN issued due to projected reserve capacity shortage for hours ending 15:00 through 20:00. ERCOT requested all QSE's to update their COPs.
 - Issued 8/01
- One OCN issued due to projected reserve capacity shortage on 08/02/2018 for hours ending 15:00 through 19:00. ERCOT is requesting all QSE's to update their COPs.
 Issued 08/01
- One OCN issued due to projected reserve capacity shortage for hours ending 15:00 through 18:00.
 - Issued 8/08
- One Advisory issued due to Physical Responsive Capability being below 3000 MW.
 - Issued on 8/9
- One Advisory issued due to Physical Responsive Capability being below 3000 MW.
 - Issued on 8/15
- One Watch issued for the de-rate of the Railroad DC-Tie and curtailment of DC-Tie exports to CENACE.
 - Issued 08/18
- One Advisory issued due to Physical Responsive Capability being below 3000 MW.
 - Issued on 8/18

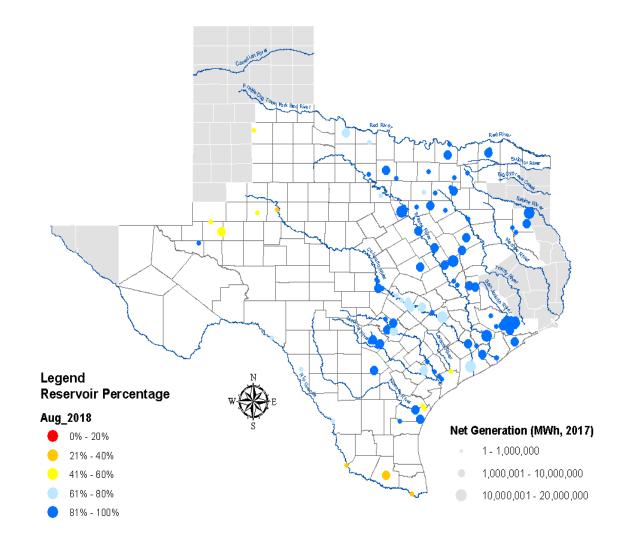


Advisories and Watches – August 2018

- One Watch issued for the de-rate of the Railroad DC-Tie and curtailment of DC-Tie exports to CENACE
 - Issued 08/27
- One Watch issued for trip of the South DC-Tie Eagle Pass
 - Issued 08/31



Lake Levels Update – September 1, 2018



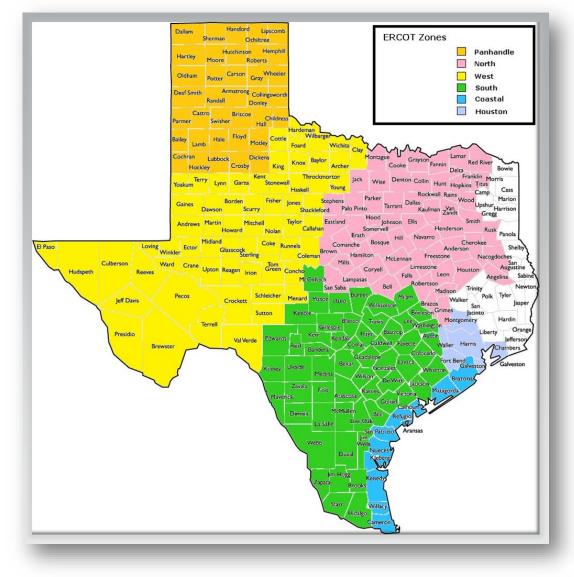
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Planning Summary – August 2018

- ERCOT is currently tracking 417 active generation interconnection requests totaling 83,491 MW. This includes 40,851 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$638.8 million.
- Transmission Projects endorsed in 2018 total \$396.6 million.
- 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).

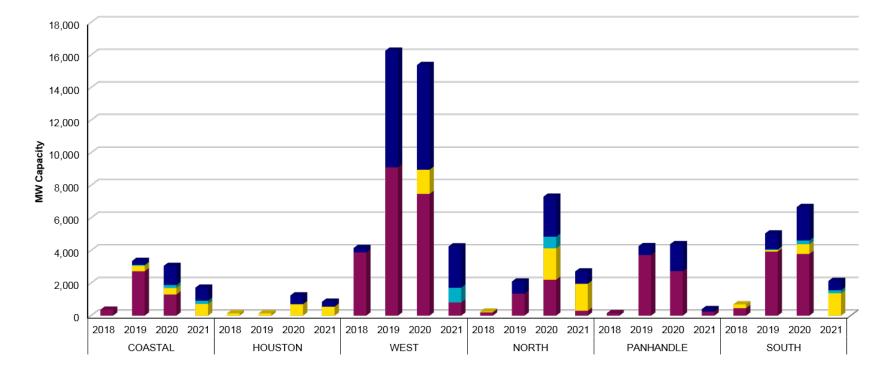


Mapping of Counties to ERCOT Zones – August 2018



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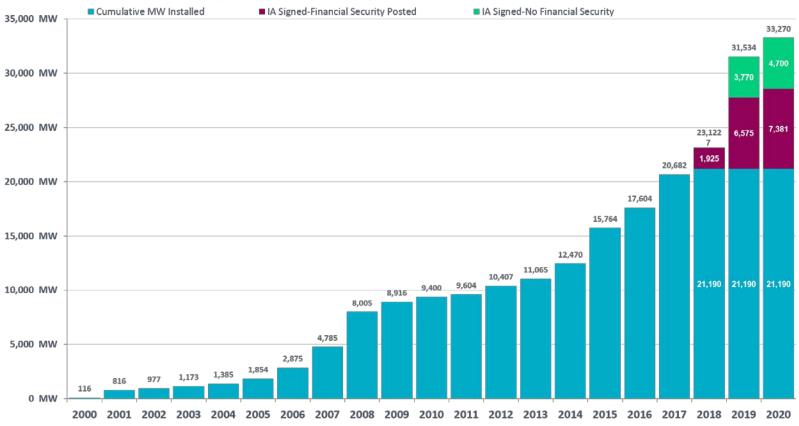
Cumulative MW Capacity of Interconnection Requests by Zone – August 2018



Wind Gas Other Solar



Wind Generation – August 2018



ERCOT Wind Additions by Year (as of Aug 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 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.

- This chart reports annual planned units with projected Commercial Operations Dates throughout the calendar year. In contrast, ERCOT's Capacity, Demand and Reserves

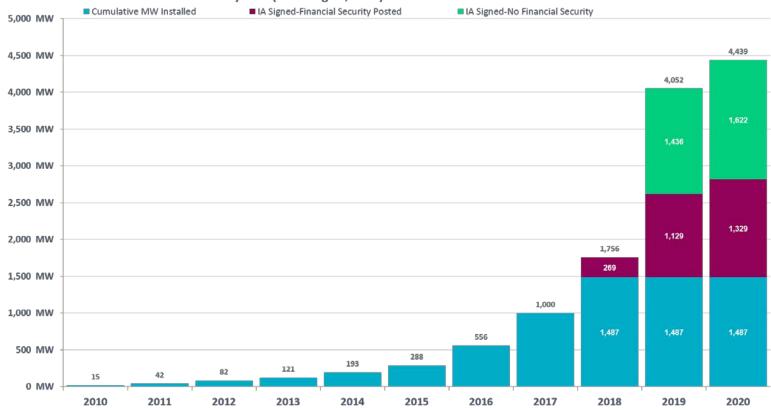
(CDR) report shows planned capacity projected to be commercially available on or before the start of the Summer and Winter Peak Load seasons.

- 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.



⁻ Installed capacities include only wind facilities that have registered with ERCOT (Those larger than one megawatt and supply power to the ERCOT system.)

Solar Generation – August 2018



ERCOT Solar Additions by Year (as of Aug 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.

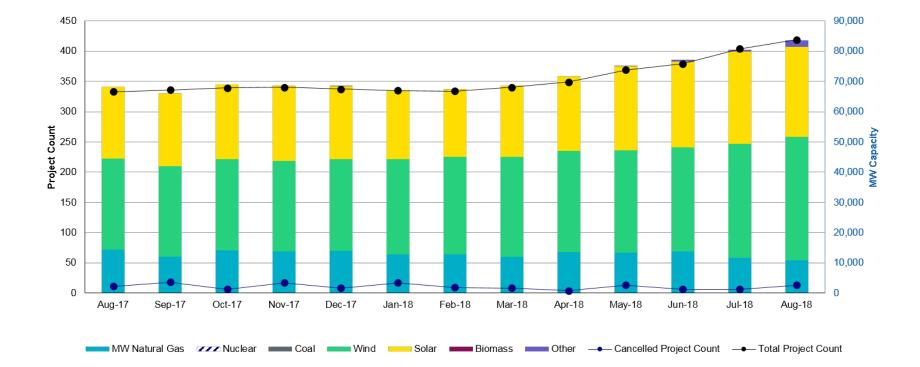
- Installed capacities are the original nameplate rating of the generation facilities, and do not reflect retirements or rating changes over time due to facility expansions or repowering.

- Installed capacities include only solar facilities that have registered with ERCOT (Those larger than one megawatt and supply power to the ERCOT system.)

- This chart reports annual planned units with projected Commercial Operations Dates throughout the calendar year. In contrast, ERCOT's Capacity, Demand and Reserves (CDR) report shows planned capacity projected to be commercially available on or before the start of the Summer and Winter Peak Load seasons.

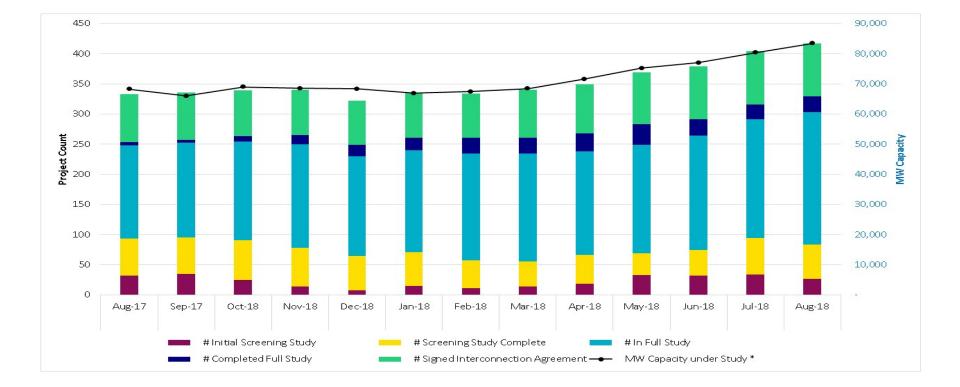


Generation Interconnection Activity by Fuel – August 2018





Generation Interconnection Activity by Project Phase – August 2018

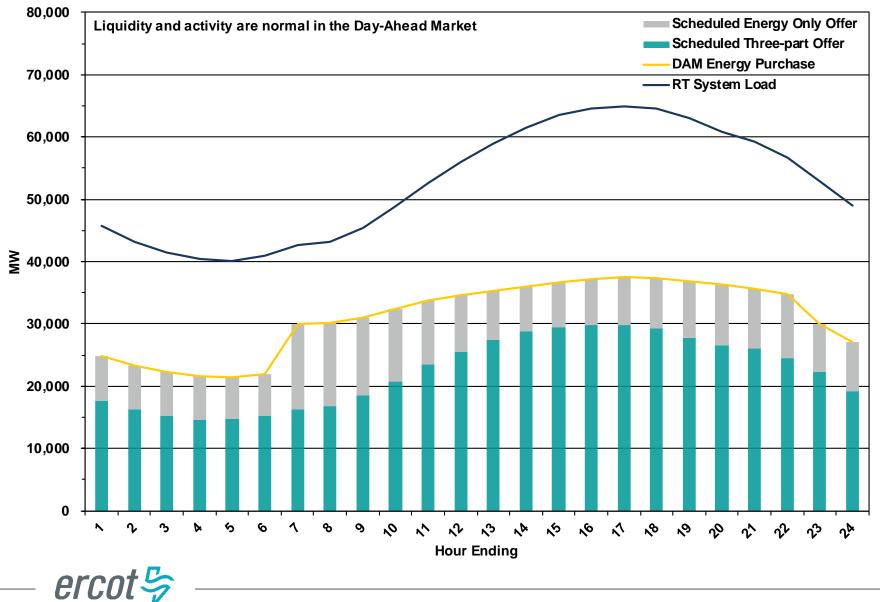




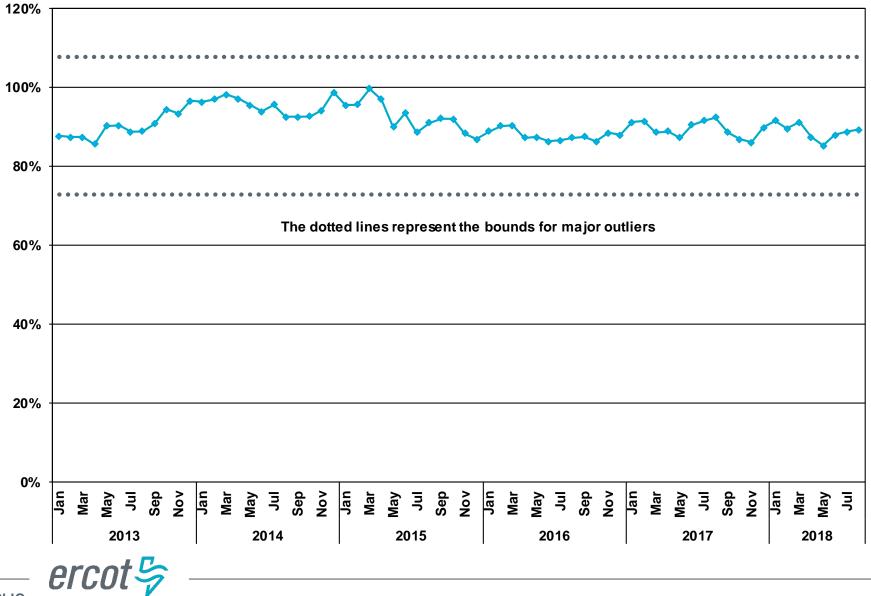
Market Operations



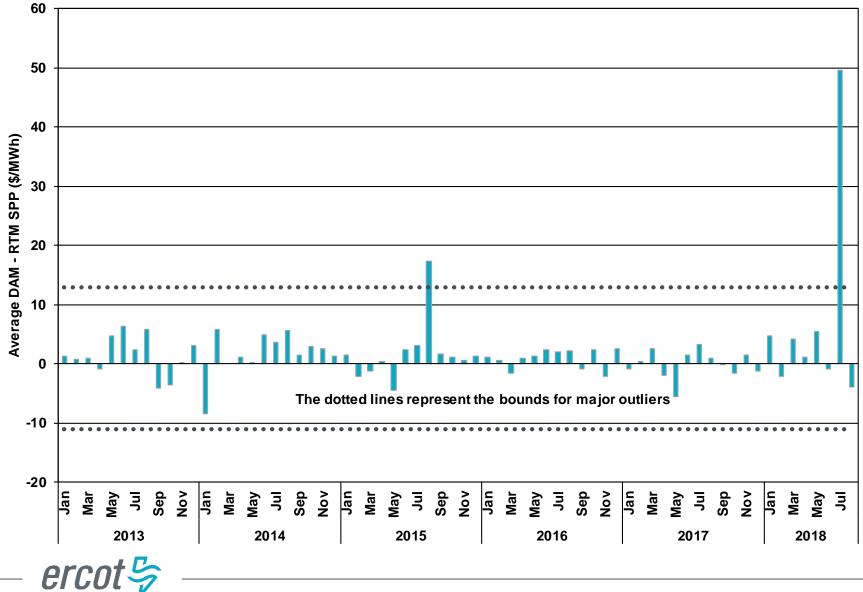
Day-Ahead Schedule (Hourly Average) – August 2018



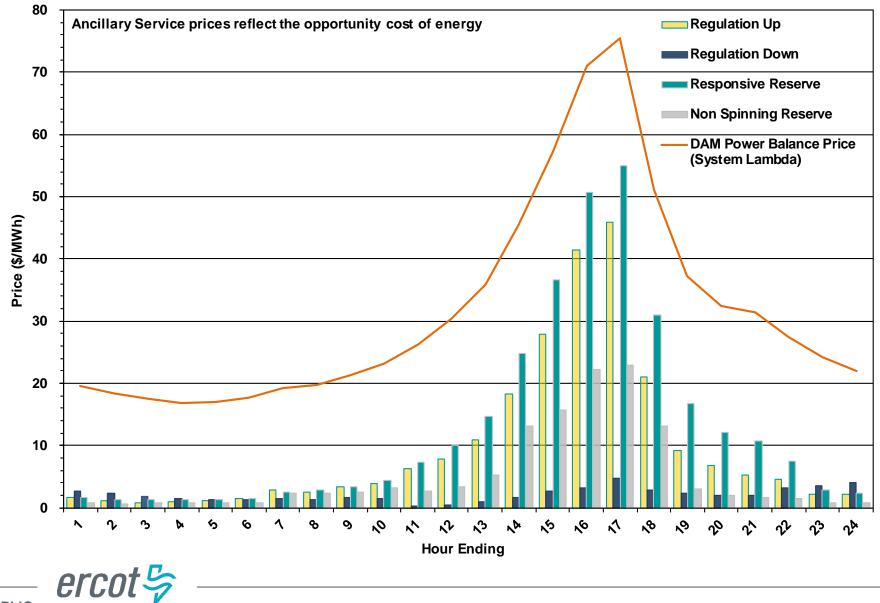
Percentage of Real-Time Load Transacted in the DAM (Counter-Party Level) – August 2018



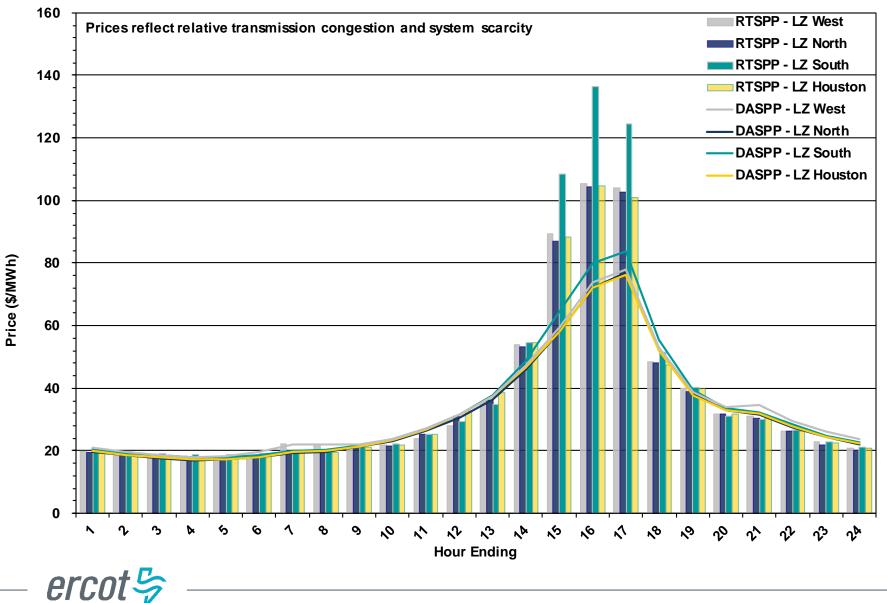
DAM and RTM Price Convergence – August 2018



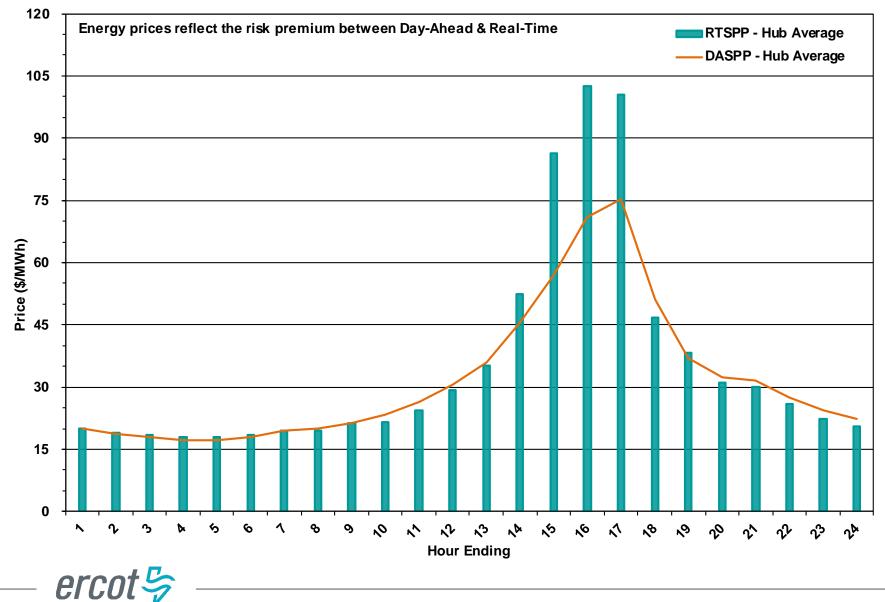
Day-Ahead Electricity and Ancillary Service Prices (Hourly Average) – August 2018



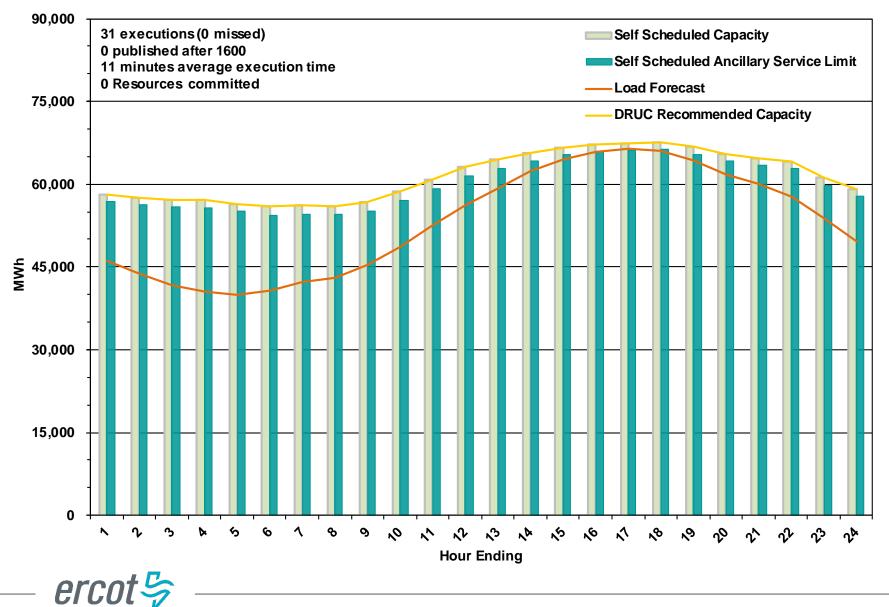
Day-Ahead vs Real-Time Load Zone SPP (Hourly Average) – August 2018



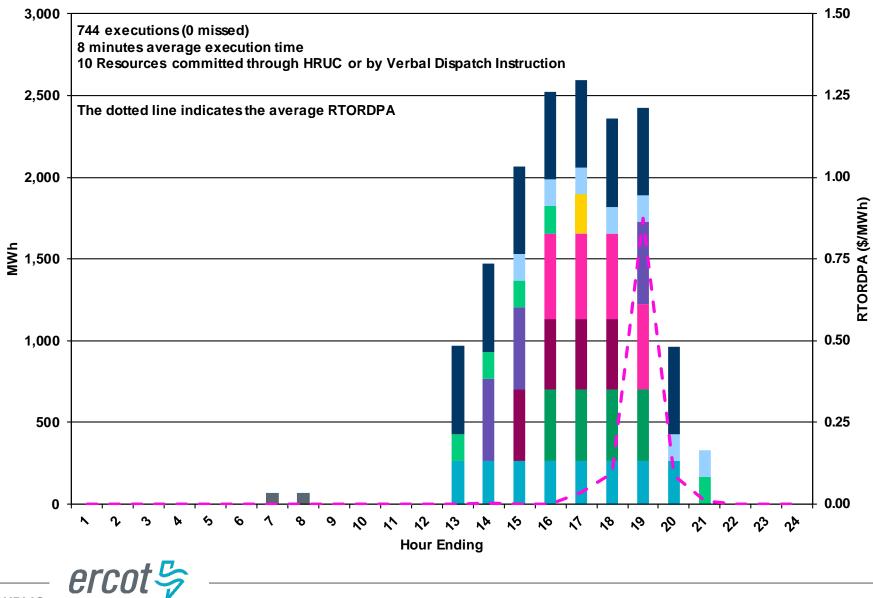
Day-Ahead vs Real-Time Hub Average SPP (Hourly Average) – August 2018



DRUC Monthly Summary (Hourly Average) – August 2018



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

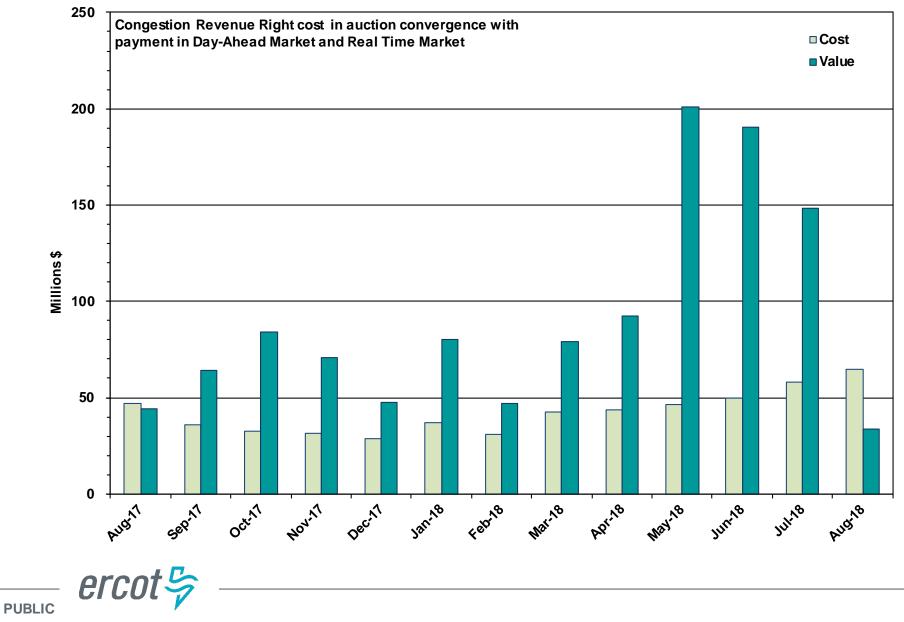


Non-Spinning Reserve Service Deployment – August 2018

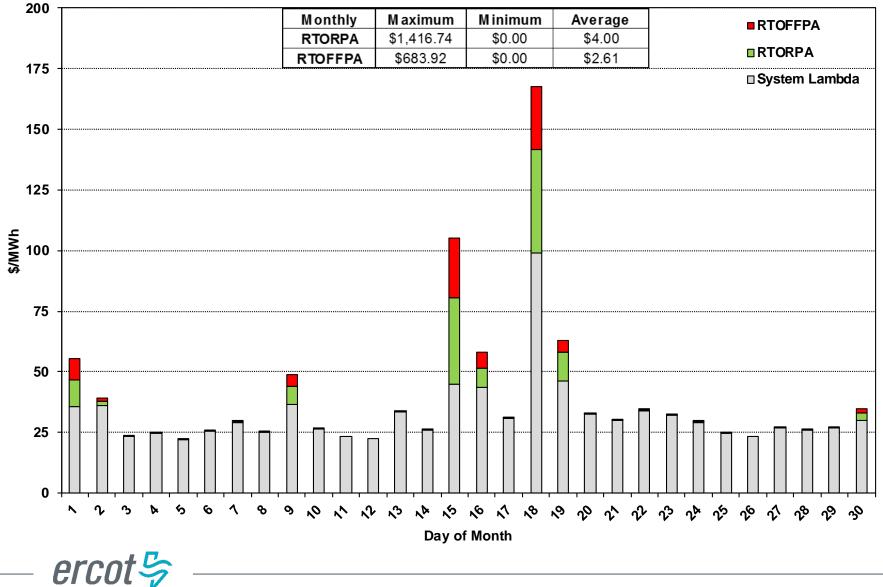
Time	Deployment End Time	Deployment Duration (Hours)	Max Deployment (MW)	Reason
N⁄A				

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CRR Price Convergence – August 2018



Daily Average System Lambda and ORDC Price Adders – August 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-SensitiveERS-10MW	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

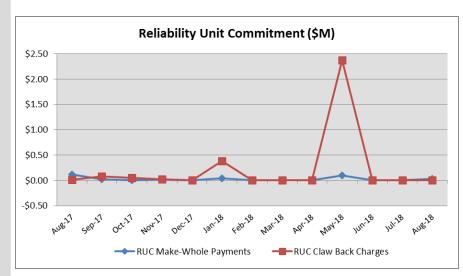
Time Period Time Period Hours

- 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 – August 2018

Reliability Unit Commitment (RUC)	\$ in Millions
RUC Make-Whole Payments	(\$0.03)
RUC Clawback Charges	\$0.00
RUC Commitment Settlement	(\$0.03)
RUC Capacity Short Charges	\$0.03
RUC Make-Whole Uplift	\$0.00
RUC Commitment Cost Allocation	\$0.03
RUC Decommitment Payments	\$0.00
Total RUC Allocation to Load	\$0.00



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

- A credit of \$0.00M in July 2018
- A credit of \$0.02M in August 2017



Ancillary and Other Services – August 2018

Ancillary and Other Services	\$ in Millions
Regulation Up Service	\$2.11
Regulation Down Service	\$0.51
Responsive Reserve Service	\$15.07
Non-Spinning Reserve Service	\$5.54
Black Start Service	\$0.59
Voltage Services - Reactive Power	\$0.00
Voltage Services - Lost Opportunity	\$0.00
Total Charges Allocated to Load	\$23.83

In August 2018, Ancillary and Other Services was a charge of \$23.83M, compared to:

- A charge of \$102.00M in July 2018
- A charge of \$17.69M in August 2017



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

Real-Time Ancillary Service Imbalance	\$ in Thousands
Real-Time AS Imbalance	(\$2,065)
Real-Time Reliability Deployment AS Imbalance	(\$79)
Total RTASI Amount Allocated to Load	\$2,144

In August 2018, Real-Time Ancillary Service Imbalance was a charge to load of \$2,144K, compared to:

- A charge of \$2,228K in July 2018
- A charge of \$601K in August 2017



Energy Settlement – August 2018

Day-Ahead Market Energy Settlement	\$ in Millions
Energy Purchases	\$793.34
Point to Point Obligation Purchases	\$40.03
Energy Sales	(\$788.18)
Day-Ahead Congestion Rent	\$45.19
Day-Ahead Market Make-Whole Payments	(\$0.01)

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

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

Real-Time Market Energy Settlement	\$ in Millions
Energy Imbalance at a Resource Node	(\$747.27)
Energy Imbalance at a Load Zone	\$1,246.15
Energy Imbalance at a Hub	(\$437.22)
Net Real-Time Energy Imbalance	\$61.66
Real Time Congestion from Self Schedules	(\$0.74)
Block Load Transfers and DC Ties	(\$14.46)
Total Impact to Revenue Neutrality	\$46.46
Load-Allocated Emergency Energy Payments	(\$0.16)
Load-Allocated Base Point Deviation Charges	\$0.23



Congestion Revenue Rights (CRR) – August 2018

	\$ in Millions
Long-Term Auction	(\$40.63)
Monthly Auction	(\$24.12)
Total Auction Revenue	(\$64.75)
Day-Ahead CRR Settlements	(\$33.84)
Day-Ahead CRR Short-Charges	\$0.20
Day-Ahead CRR Short-Charges Refunded	(\$0.20)
Day-Ahead CRR Short-Charges Net	\$0.00
Total CRR Funding	(\$33.84)
Day-Ahead Point-to-Point Obligations	\$40.03
Real-Time Point-to-Point Obligations	(\$59.07)
Net Point-to-Point Obligations	(\$19.04)

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 \$19.04M compared to a net charge of \$16.14M last month.

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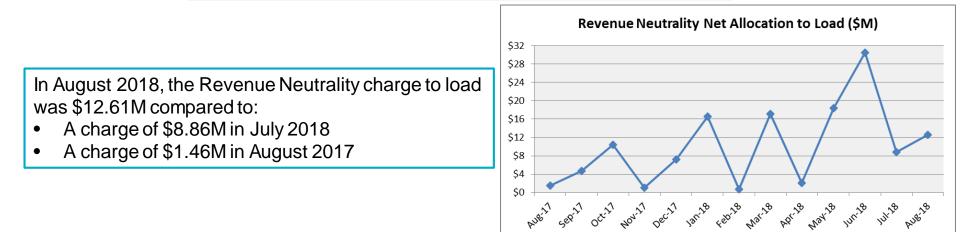
CRR Balancing Account Fund – August 2018

CRR Balancing Account	\$ in Millions
Monthly Day-Ahead Congestion Rent	\$45.19
Monthly Day-Ahead CRR Settlements	(\$33.84)
Monthly Day-Ahead CRR Short -Charges	\$0.20
CRR Balancing Account Credit Total	\$11.55
Beginning Fund Balance for the Month	\$0.00
CRR Balancing Account Credit Total	\$11.55
Day-Ahead CRR Short-Charges Refunded	(\$0.20)
CRR PTP Option Award Charges	\$0.04
Load-Allocated CRR Amount	(\$1.39)
Total Fund Amount	\$10.00



Revenue Neutrality – August 2018

Revenue Neutrality	\$ in Millions
Real-Time Energy Imbalance	\$61.66
Real-Time Point to Point Obligation	(\$59.07)
Real-Time Congestion from Self-Schedules	\$0.74
DC Tie & Block Load Transfer	(\$14.46)
Allocation to Load	\$12.61



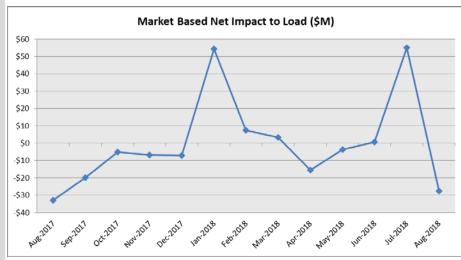


Net Allocation to Load – August 2018

Market-Based Allocation	\$ in Millions
Reliability Unit Commitment	\$0.00
Ancillary and Other Services	\$23.83
Real-Time Ancillary Service Imbalance	\$2.14
Emergency Energy	\$0.16
Base Point Deviation	(\$0.23)
CRR Auction Revenue	(\$64.75)
CRR Balancing Account	(\$1.39)
Real-Time Revenue Neutrality	\$12.61
Reliability Must Run	\$0.00
Monthly Block Load Transfer	\$0.00
Total	(\$27.63)
Fee Allocation	
ERCOT Administrative Fee	\$21.85
Net Allocated to Load	(\$5.78)

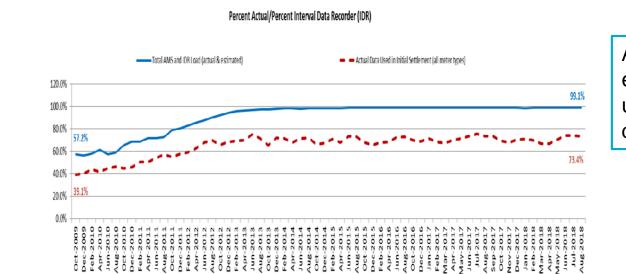
In August 2018, the Net Allocation to load was a credit of \$5.78M compared to:

- A charge of \$77.07M in July 2018
- A credit of \$12.58M in August 2017



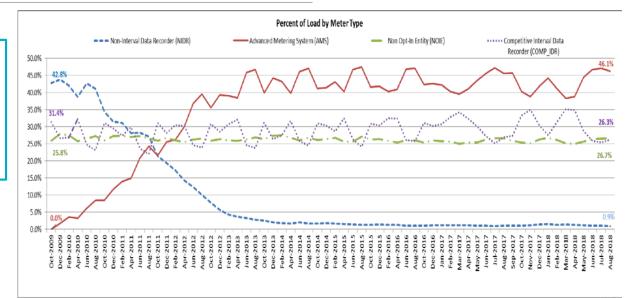
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Advanced Meter Settlement Impacts – August 2018

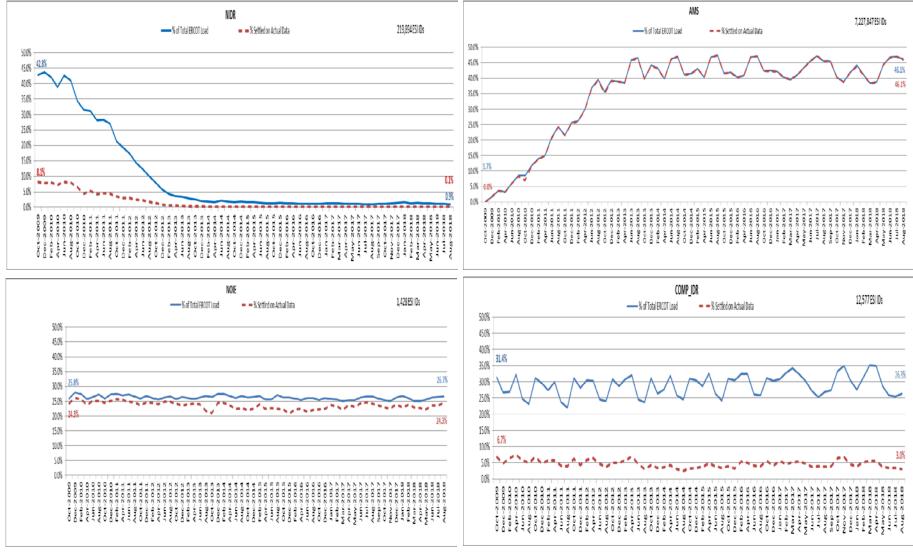


August 2018: At month end, settling 7.2M ESIIDs using Advanced Meter data.

August 2018: 99.1% of the load in ERCOT is settled with 15-min interval data (AMS, Competitive IDR, and NOIE IDR).



ERCOT Wide Load Volumes by Meter Type – INITIAL Settlement – August 2018

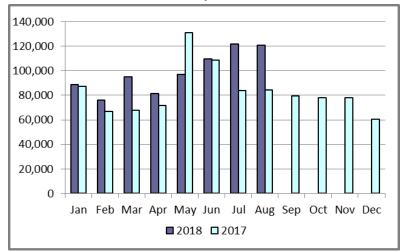


Retail Transaction Volumes – Summary – August 2018

	Year-T	o-Date	Transactior	ns Received
Transaction Type	August 2018	August 2017	August 2018	August 2017
Switches	790,776	701,434	120,867	84,134
Acquisition	0	0	0	0
Move - Ins	1,954,972	1,826,199	287,935	258,046
Move - Outs	946,048	930,883	131,468	128,104
Continuous Service Agreements (CSA)	455,506	323,875	59,562	40,616
Mass Transitions	9,034	0	0	0
Total	4,156,336	3,782,391	599,832	510,900

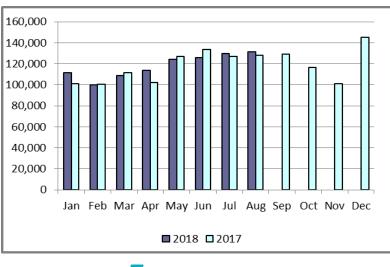


Retail Transaction Volumes – Summary – August 2018

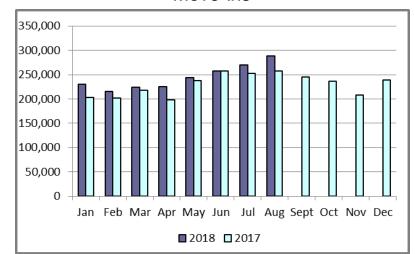


Switches/Acquisitions

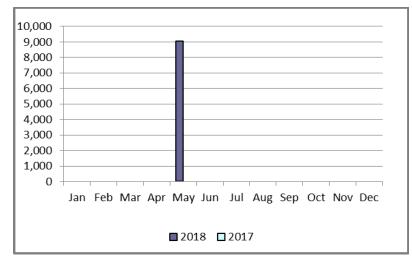
Move-Outs







Mass Transition



Move-Ins

Projects Report



	Impact Metric Tolerances		2018 Proje	ect Fundin	g	\$20,000,000	2018 Po Spen Estin	ding			
Unfavora report.	Infavorable variances are represented as negative numbers within the			Projects In Flight/On Hold (Count = 6)							
- Green =	No more than 4.9% unfavorable variance		Projects Not	Yet Started	(Count = 1)		\$ 4	48,970			
	= Unfavorable variance between 4.9% and 9.9% Infavorable variance more than 9.9%		Projects Con	pleted (Cour	nt = 54)		\$ 1,6	12,914			
- Red – Offravorable variance more than 5.5%			Spending Re Budget	ductions Req	uired to Maint	ain Capital	\$ (5,9	91,037)		
			TOTAL				\$ 20,0	00,000	-		
Project Number	Projects in initiation Phase (Colling	= 4)	Footnotes								
TBD	Governance, Risk and Compliance (GRC) Replacen	oent Tool				ed, resulting in addition					
	· · · · ·		2 - One or moi	e phases requir	ed more labor than	n expected, resulting	in additional f	unding	and/or time required		
292-01	Additional Branch Limit for Relays		3 - Project place	ced on hold							
291-01	IT Asset Recovery			t calculated bec							
209-03	Study Network (STNET) Integration			eported at the pa n administrative	arent project level, project	or					
Project Number	Projects in Planning Phase (Count = 11)	Phase Start	Baceline	Approved	Scheduled Go-Live Date	Scheduled Phase Finish	Schedule Health	Bud		Budget H	
134-02	Privileged Account Management (PAM) Phase 2	8/8/2018	12/19/2018	12/19/2018	TBD	12/19/2018	0%		12%		
183-01	CMM-FT GUI Integration	12/16/2015	8/17/2016	TBD	TBD	TBD	0%	NA	See 2015 CMM NPRRs		
242-01	Portfolio Reporting Assessment	11/8/2017	12/19/2018	12/19/2018	TBD	12/19/2018	0%		15%		
260-01	Information Governance Assessment	10/18/2017	5/30/2018	9/19/2018	TBD	9/19/2018	0%		11%		
286-01	Java Platform Assessment	6/20/2018	11/21/2018	11/21/2018	TBD	11/21/2018	0%		18%		
287-01	Security Constrained Unit Commitment (SCUC)	8/8/2018	2/27/2019	2/27/2019	TBD	2/27/2019	0%		0%		
288-00	Retail Portfolio Refresh (RPR) Program Control	9/5/2018	3/27/2019	3/27/2019	TBD	3/27/2019	0%		0%		
288-01 NPRR484	EDI Map and Translator Replacement Revisions to Congestion Revenue Rights Credit Calculations	8/29/2018 12/16/2015	2/27/2019 8/17/2016	2/27/2019 TBD	TBD TBD	2/27/2019 TBD	0% 0%	NA	9% See 2015 CMM		
	and Payments - Phase 1b / 2 Flexible Accounts, Payment of Invoices, and Disposition of	12/16/2015		TBD	TBD	TBD	0%	NA	NPRRs See 2015 CMM NPRRs		
NPRR702	Interest on Cash Collateral	1									



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		В	udget Health
170-01	Enterprise Content Alignment Program	8/26/2015	11/15/2017	8/31/2018	12/1/2019	12/1/2019	1	-41%		0%
170-06	ECAP - ECMS Implementation Phase 1	4/25/2018	11/30/2018	11/30/2018	11/30/2018	11/30/2018		0%		1%
173-02	ERCOT Flight Certification Website	11/15/2017	2/28/2019	2/28/2019	6/1/2019	5/31/2019		0%		1%
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	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	2/15/2019	2/15/2019	3/20/2019		0%		0%
196-01	GINR Project Status Application Replacement	12/21/2016	9/14/2017	2/28/2019	2/28/2019	3/31/2019		0%		0%
209-02	Weather Imaging and Line Observation (WILO)	5/30/2018	2/1/2019	2/1/2019	2/1/2019	2/27/2019		0%		1%
210-01	REC Technology Refresh	8/30/2017	3/18/2018	12/13/2018	12/13/2018	1/16/2019		0%		0%
228-01	Enterprise Database Upgrade	8/8/2018	1/29/2020	1/29/2020	1/29/2020	1/29/2020		0%		12%
229-01	IT Change and Configuration Management Phase 2	8/2/2017	6/19/2018	12/13/2018	12/13/2018	3/25/2019		0%	2	-9%
238-01	Application Authentication Tech Refresh	9/6/2017	3/19/2018	12/13/2018	12/13/2018	1/30/2019		0%		9%
239-01	Identity and Access Management	5/9/2018	3/13/2019	3/13/2019	3/13/2019	3/13/2019		0%	2	-6%
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%		4%
246-01	iTest Data Refresh	12/13/2017	11/9/2018	11/15/2018	11/15/2018	1/2/2019		0%		1%
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%		23%
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%		0%
265-01	Real-Time Assessment Continuity	1/31/2018	12/13/2018	12/13/2018	12/13/2018	1/30/2019		0%		9%
279-01	Cyber Security Project #24	6/27/2018	10/26/2018	10/26/2018	10/26/2018	11/28/2018		0%		20%
280-01	Quest Software Portfolio Transition	4/4/2018	6/27/2018	9/26/2018	9/26/2018	9/26/2018		0%		21%
282-01	Synchronous Condenser Outage Modeling	6/6/2018	10/25/2018	10/25/2018	10/25/2018	12/5/2018		0%		10%
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	12/11/2018	12/31/2018		0%		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
NPBB741	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
NPRR749	Option Cost for Outstanding CRRs	8/8/2018	12/13/2018	12/13/2018	12/13/2018	TBD		0%	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		edule ealth	Bu	idget Health
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
NPRR833	Modify PTP Obligation Bid Clearing Change	8/8/2018	12/13/2018	12/13/2018	12/13/2018	TBD		0%		1%
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%		0%
NPRR864	RUC Modifications to Consider Market-Based Solutions	6/20/2018	10/25/2018	10/25/2018	10/25/2018	11/28/2018		0%		19%
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%		0%
Project Number	Expedited Projects in Execution (Count = 31)									
Project Number	Projects in Stabilization (Count = 8)	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
209-01	Multi Station Breaker to Breaker One Lines	2/8/2017	3/9/2018	5/3/2018	5/3/2018	9/12/2018		0%		-3%
259-01	DC SCADA and Metering Upgrade	10/25/2017	1/17/2018	7/25/2018	7/25/2018	9/19/2018		0%		16%
266-01	Remote Email Access Enhancement	12/13/2017	3/7/2018	6/6/2018	6/19/2018	9/26/2018	2	-7%	2	-16%
Project Number	Projects On Hold (Count = 2)	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									
269-01	Document Repository Redesign and Governance Implementation - Phase 1									

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Project Number	Projects Completed (Count = 28)	Daseline 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%		76%
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%		0%
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	-5%
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	1/19/2018	2/14/2018	1	-10%		53%
258-01	WD Kainos SMART Automation Testing Tool	4/11/2018	6/4/2018	6/4/2018	6/6/2018	7/18/2018		-3%		29%
271-01	Issue Tracking and Resolution Tool Assessment	12/13/2017	4/25/2018	4/25/2018	TBD	5/2/2018	1	-5%		-1%
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%		15%
NPRR776	Voltage Set Point Communication	9/20/2017	3/19/2018	4/5/2018	4/5/2018	9/5/2018		0%		0%
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
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%		-2%
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%		30%
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
	Correction of 60-day SCED GRD Disclosure Report	5/2/2018	8/9/2018	8/9/2018	8/9/2018	9/5/2018		0%		59%
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 = 26)	
Project Number	2018 Projects Not Yet Started (Count = 8)	Forecast Start Date
NPRR858	Provide Complete Current Operating Plan (COP) Data	Sep-2018
TBD	2018 OS Enhancements	Sep-2018
NPRR821	Elimination of the CRR Deration Process	Oct-2018
NPRR865	Publish RTM Shift Factors for Hubs, Load Zones, and DC Ties	Oct-2018
SCR793	SSR Related Telemetry for Transmission Service Provider (TSP) Operators	Oct-2018
ECAP	ECAP - ECMS Implementation Phase 2	Oct-2018
NPRR817	Create a Panhandle Hub	Sep-2018

