



Item 4.1: CEO Update

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President & CEO
ERCOT

Board of Directors Meeting

ERCOT Public
August 8, 2017

CEO Update: Variance to Budget (\$ in Millions) Net Revenues After Department Expenditures

Net Revenues Year to Date Actuals: \$3.4 M Favorable *(as of June 30, 2017)*

Major Revenue Variances

\$2.1 M under budget: system administration fees unfavorable due to mild weather

Major Expenditure Variances

\$1.8 M under budget: interest expense due to project funding and no revolver usage; interest income due to higher rates

\$0.7 M under budget: computer hardware and equipment purchases

\$0.4 M over budget: resource management (\$-1.0 M staff backfill and augmentation; \$0.5M project work, \$0.1M staffing management)

\$1.8 M under budget: timing differences

Net Revenues Year End Forecast: \$4.5 M Favorable *(as of July 26, 2017)*

Major Revenue Variances

\$0.8 M under budget: system administration fees unfavorable based on current actuals and load forecast for remainder of year

Major Expenditure Variances

\$3.1 M under budget: interest expense due to project funding and minimal revolver usage; interest income due to higher rates

\$1.0 M under budget: computer hardware and equipment purchases

\$0.5 M over budget: resource management (\$-2.1 M staff backfill and augmentation; \$0.8 M project work; \$0.8 M staffing management)



2017 Off-Cycle & R4 Release Summary

- August 1, 2017 Go-Live
 - NPRR809: GTC or GTL for New Generation Interconnection
 - GTC = Generic Transmission Constraint
 - GTL = Generic Transmission Limit
 - PGRR052: Stability Assessment for Interconnecting Generation
 - PGRR054: Stability Limits in the Full Interconnect Study
- R4 Release Dates: August 29-31, 2017
 - 130 Change Requests across the application areas
 - NPRRs
 - NPRR758: Improved Transparency for Outages Potentially Having a High Economic Impact
 - NPRR775: Enhanced Implementation of Limits for Fast Responding Regulation Service
 - R4 impacted functional areas:
 - Congestion Revenue Rights, Data and Information Products, Data Management & Governance, Energy Management System, Enterprise Integration Nodal Services, Market Management System, Market Settlements, Outage Scheduling, Web Communications

Summer Operations So Far



Monthly Demand Records (June and July)*

- June 23: Broke previous monthly records three hours
New June record: 67,617 MW (4-5 p.m.)
- July 20: Broke previous records twice (2-3 p.m.; 3-4 p.m.)
- July 28: Broke that record two consecutive hours
New July record: 69,525 MW (4-5 p.m.)
- July 29: Broke previous weekend demand record twice
New weekend record: 68,413 MW (4-5 p.m.)

** New records are preliminary, subject to change in final settlement.*

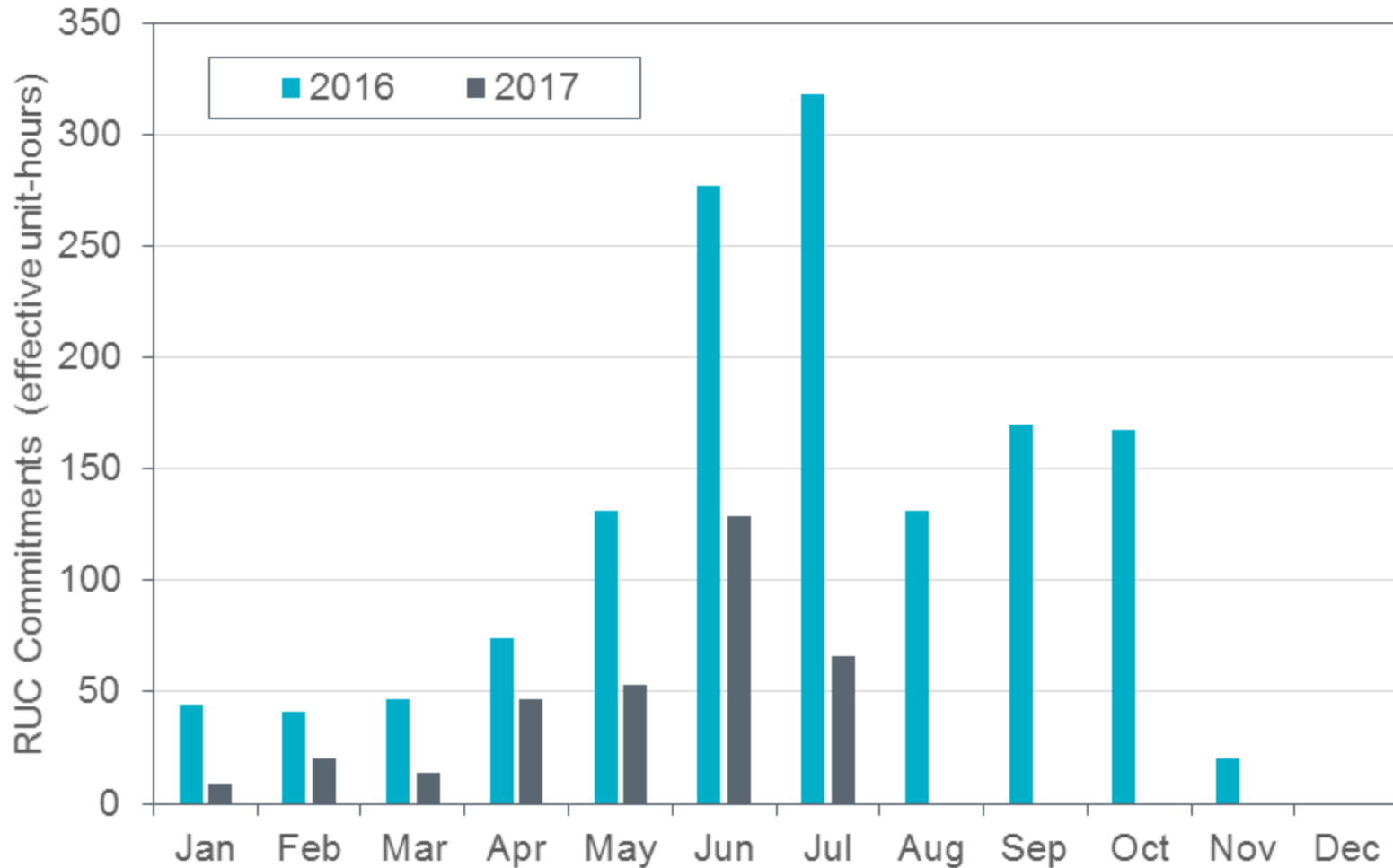
Notices and Advisories (May and June)

- No EEAs or transmission emergencies
- 11 Advisories (including 7 for PRC <3,000 MW)
- 2 OCNs (Capacity insufficiency and Tropical Storm Cindy)
- 9 Watches (all related to DC Ties)

Reliability Unit Commitments

- Decreased considerably since 2016

Reliability Unit Commitments Down from 2016



Of Note from Operations Report (May and June)

Metric	Trending as Expected	Further Information
Hourly Reliability Unit Commitment (HRUC) Monthly Summary	Yes	<ul style="list-style-type: none"> Capacity committed by the HRUC process indicates the level of out-of-market activity needed during the Operating Day to maintain reliability 7 Resources were committed in May to resolve congestion and capacity shortage. 14 Resources were committed in June to resolve congestion and voltage stability
Supplemental Ancillary Service Market Monthly Summary	Yes	<ul style="list-style-type: none"> Normal trend indicates that infeasibility was not a major concern
Non-Spinning Reserve Service Deployment	Yes	<ul style="list-style-type: none"> Non-Spin was deployed on May 15 & 16 for voltage support. Non-Spin was deployed on June 2 for voltage support and June 19 for congestion
Congestion Revenue Rights Price Convergence	No	<ul style="list-style-type: none"> Recent trends in CRR show day-ahead values significantly above auction costs. Higher-than-expected congestion in the Day-Ahead Market is the main driver.



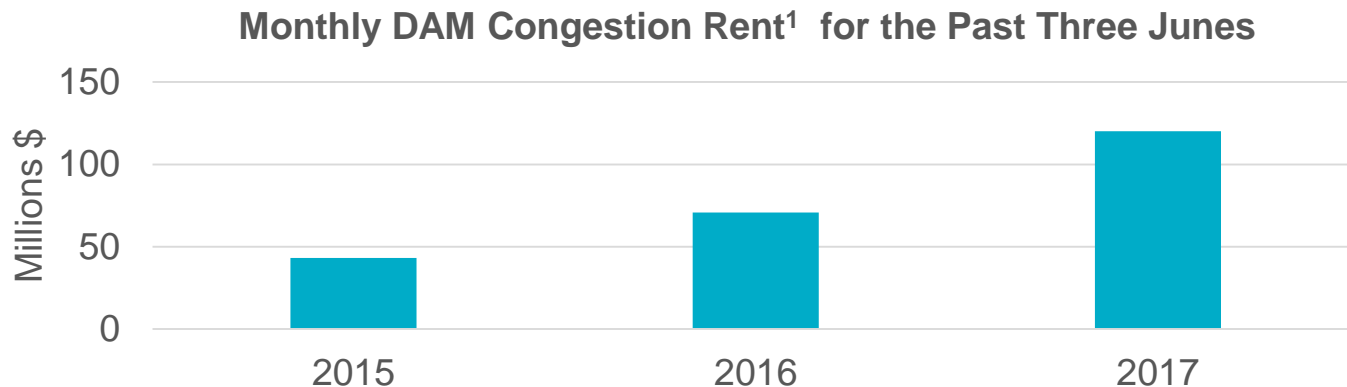
Of Note from Operations Report (June)

Metric	Trending as Expected	Further Information
Retail Transactions	Yes	<ul style="list-style-type: none"> Seasonal variations in transaction volumes trending as expected
Advanced Metering	Yes	<ul style="list-style-type: none"> 99.0% of ERCOT load settled with 15-minute interval data. 7.0M Advanced Metering System (AMS) Electric Service Identifier (ESIID)s included in settlement as of June 2017.
Settlement Dollars	Yes	<ul style="list-style-type: none"> As of settlement of Operating Day 06/30/2017, the daily average settlement dollars for June are \$17.23M, which is up from \$17.19M in May 2017 and up from June 2016 which had an average of \$13.62M.
Revenue Neutrality	Yes	<ul style="list-style-type: none"> As of settlement of Operating Day 06/30/2017, Revenue Neutrality uplift is a charge of \$10.36M, which is up from May 2017 which was a charge of \$8.76M and up from June 2016 which was a credit of \$1.55M.
Market-Based Uplift to Load	No	<ul style="list-style-type: none"> As of settlement of Operating Day 06/30/2017, the market-based uplift was a credit of \$13.64M, as opposed to a charge of \$12.09M in May 2017 and a credit of \$1.36M in June 2016. This is mainly due to a \$24.2M credit to Load via the CRR Balancing Account. Higher-than-expected congestion in the Day-Ahead Market has been the main driver of the higher-than-expected CRR Balancing Account balance.



Congestion Revenue Rights Prices and Account Surplus

- Both items highlighted in Operations Report are related to a CRR Balancing Account balance that is higher than expected, resulting in a \$24.2 million credit to load in June.
- Main driver: Higher-than-expected congestion in the Day-Ahead Market
 - Significant congestion in all Load Zones, particularly in the South and along paths between the North and Houston zones
 - Contributors include high load, planned and unplanned outages.
 - CRR funding was not a concern.



¹ DAM Congestion Rent as defined in Nodal Protocol 7.9.3.1(2)

Sharing Expertise and Insight



- U.S. House Energy & Commerce Committee is holding a series of hearings on “Powering America: A Review of the Operation and Effectiveness of the Nation’s Wholesale Electricity Markets”
- On July 26, Senior VP & COO Cheryl Mele represented ERCOT on a witness panel that included all the U.S. ISOs and RTOs.



ERCOT engineers played a leading role at IEEE’s annual meeting of power engineers from all over the world, July 16-20 in Chicago.

Presented papers

Connor Anderson
Cong Liu

Chaired panels

Pengwei Du
Julie Jin

Presented on panels

Bill Blevins, Pengwei Du, Fred Huang
Sun Wook Kang, John Schmall,
Sandip Sharma



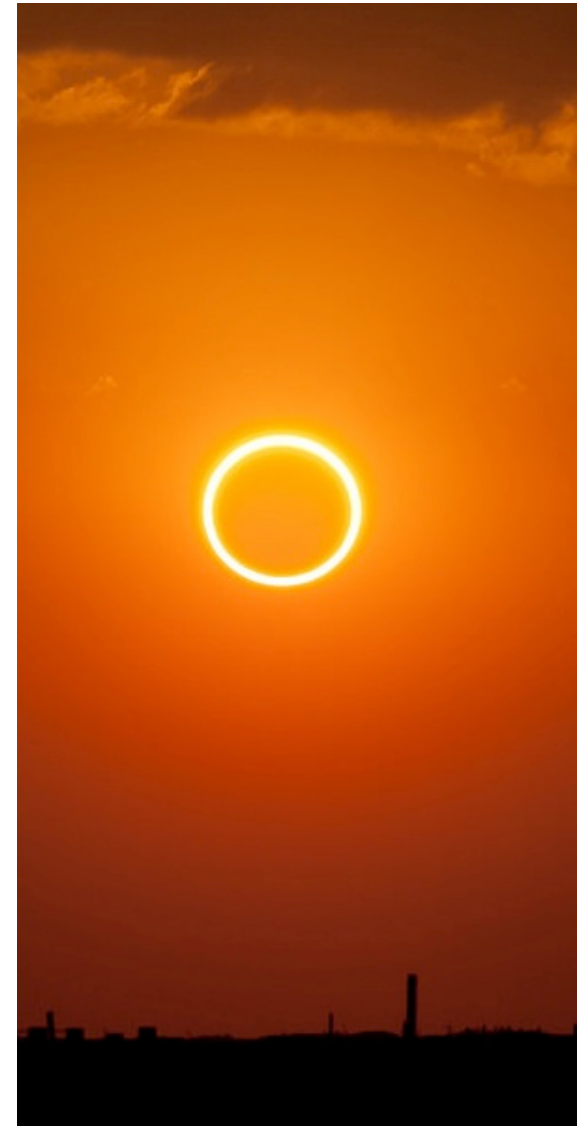
Recent Texas PUC Orders and Filings



- On July 28, the Commission approved the third terms for Unaffiliated Directors Craven Crowell, Judy Walsh and Karl Pfirrmann.
- On July 20, ERCOT submitted its 2018-2019 budget and fee request, as approved by the Board in June, to the Commission.
- On July 14, ERCOT responded to Commission requests for a cost estimate on Real-Time Co-optimization and updates on several market-related issues.
- On Aug. 10, the Commission will host a workshop to discuss various proposals for future market enhancements.

Coming Attractions

- Solar Eclipse Aug. 21
 - Impact in ERCOT region likely minimal – 600 MW over 1-1.5 hours (more impacts north of Texas)
 - Solar forecast and Ancillary Services will address expected impact.
- Reactive Power Coordination
 - Launched stakeholder discussions in July 24 workshop
- Retail System Upgrade
 - Addressing needed updates to retail systems (hardware, software)
 - Working to keep Retail Electric Providers aware of system impacts



Special Recognition – NMMS Upgrade Team



- The Network Model Management System (NMMS) contains modeling data used for all ERCOT applications that require a network model: EMS, MMS, System Planning, CRR, Outage Coordination, and Settlements and Billing.
- Just completed final stabilization of first-ever upgrade of this critical system