



Item 4.1: CEO Update

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President & CEO
ERCOT

Board of Directors Meeting

ERCOT Public
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CEO Update: Variance to Budget (\$ in Millions)

Net Revenues After Department Expenditures

Net Revenues Year to Date Actuals: \$1.0 M Unfavorable *(as of February 28, 2017)*

Major Revenue Variances

\$2.8 M under budget: system administration fees unfavorable due to mild weather

Major Expenditure Variances

\$0.5 M under budget: interest expense due to project funding and no revolver usage; interest income due to higher rates

\$0.4 M under budget: computer hardware and equipment purchases

\$0.6 M over budget: higher employee health costs

\$0.2 M over budget: resource management

\$1.7 M under budget: timing differences

Net Revenues Year End Forecast: \$0.1 M Favorable *(as of March 23, 2017)*

Major Revenue Variances

\$0.9 M under budget: system administration fees unfavorable based on current actuals and load forecast for remainder of year

Major Expenditure Variances

\$2.3 M under budget: interest expense due to project funding and minimal revolver usage; interest income due to higher rates

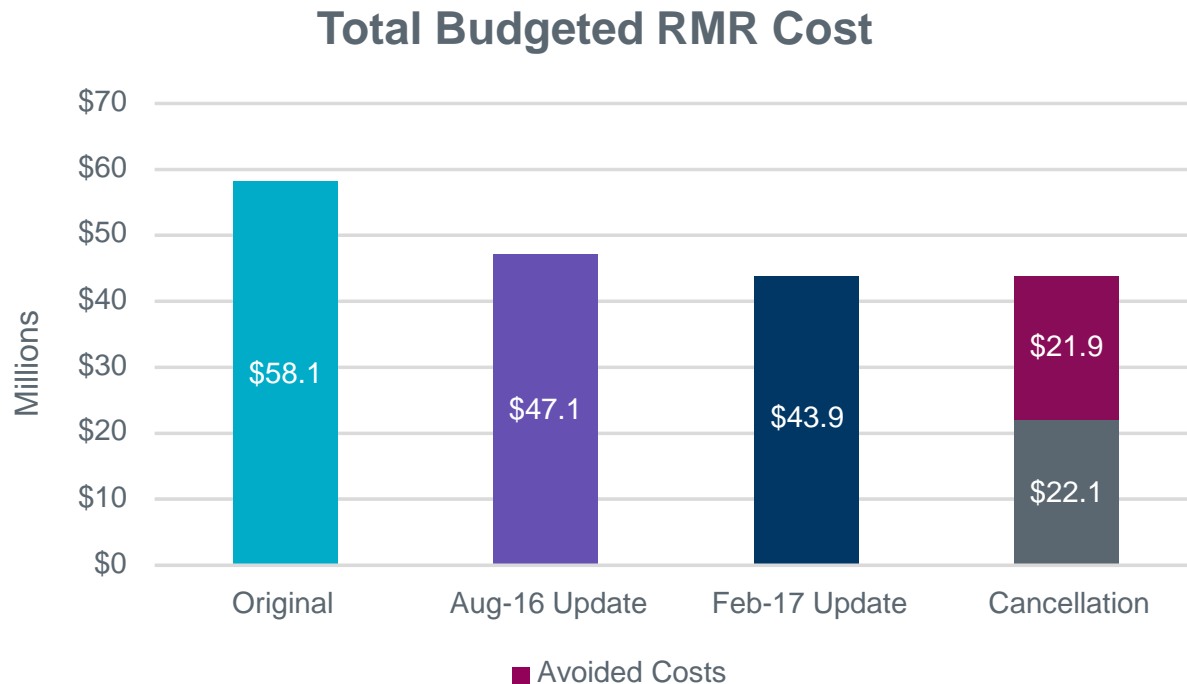
\$1.4 M under budget: computer hardware and equipment purchases

\$1.6 M over budget: higher employee health costs

\$1.1 M over budget: resource management



GBY5 RMR: Costs and Termination Savings



- Determined ERCOT will not need Greens Bayou Unit 5 (GBY5) Reliability Must-Run (RMR) contract for Summer 2017
- Updated budget reflects estimated cost savings of \$21.9 million, compared to budget for full term of the RMR agreement as of February 2017.

New NERC Standard and EEA Level 3

- NERC Reliability Standard EOP-011-1 mandatory effective April 1
- Aligns EEA Level 3 with ability to maintain minimum Contingency Reserve requirements (currently 1,375 MW in ERCOT)
- ERCOT operating procedures were revised, effective April 1, 2017, to ensure compliance with new standard.
- Trigger for rotating outages still 59.8 Hz or <1,000 MW PRC
 - But EEA Level 3 no longer automatically signals rotating outages.
- Next step: ERCOT will sponsor NPRR to change the EEA Level 3 declaration trigger in Protocols; issued Market Notice on March 22, 2017.

Distributed Energy Resources Report

- Released report on Distributed Energy Resources: Reliability Impacts and Recommended Changes (March 23)
- Not an immediate reliability risk, but some concerns associated with deployment of >1 MW resources, depending on location and concentration
- Working with TDSPs on mapping to increase visibility, prepare for possibility of localized price signals to support reliability in future
- Other ISO/RTOs, NERC and states examining similar issues



Variable Generation Resources



Wind resources

- New integration record
 - 50% of 28,780 MW load
 - 3:50 a.m. on March 23, 2017
 - About 1,500 MW curtailed (~55% without curtailment)
- Capacity >18,000 MW
 - Interconnection agreements: Could exceed 28,000 MW in 2018

Utility-scale solar resources

- Capacity nearly doubled in 2016.
 - Currently 556 MW
 - Interconnection agreements: Could grow to ~2,000 MW in 2018

Continuous Improvement for a Changing Grid

- Implementation of the Reliability Risk Desk
- Adapting planning and interconnection information to changing needs
 - Examples include NPRR 809, PGRR 52 and PGRR 54.
- Increasing automation, improving tools, enhancing training
- Collaborating and sharing expertise and learning
 - ISO/RTO Council Emerging Technologies report (March 16)



Recent National Recognition



- Utility Variable-Generation Integration Group (UVIG) Achievement Awards for 2017 honored six groups and leaders from around the world.
- ERCOT and Dan Woodfin, Senior Director of System Operations, were recognized for “*sustained leadership in the integration of a large share of variable generation into ERCOT system operations.*”