



## **Item 4.1: CEO Update**

*Bill Magness*

President & Chief Executive Officer  
ERCOT

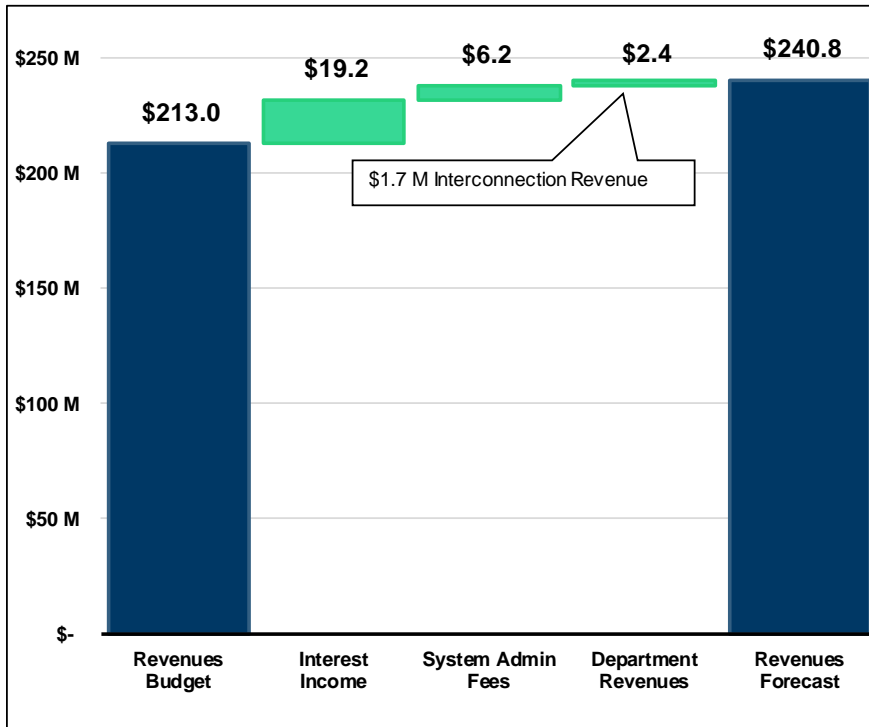
Board of Directors Meeting

ERCOT Public  
December 10, 2019

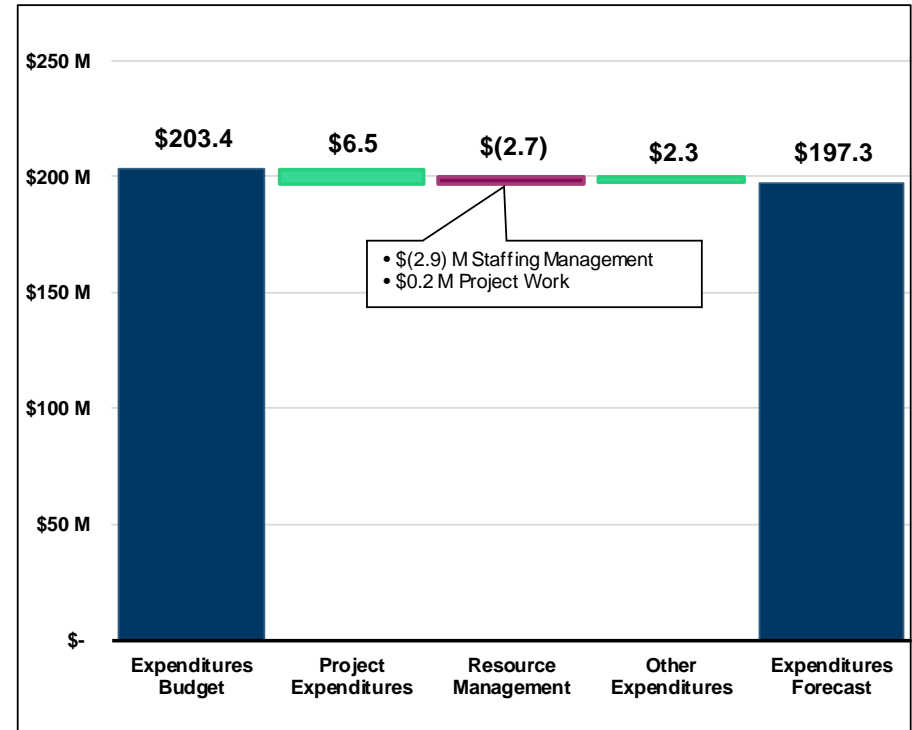
# Review 2019 Financial Summary: 2019 Variance to Budget (\$ in Millions)

**Net Available Year-End Forecast Variance to Budget = \$33.9 M**

Revenues Year-End Forecast  
Variance to Budget = \$27.8 M [13.1%]



Expenditures Year-End Forecast  
Variance to Budget = \$6.1 M [3.0%]



Charts may not foot due to rounding.



# ERCOT's 2020-21 Biennial Budget Approved

- The Public Utility Commission of Texas approved ERCOT's 2020-21 Biennial Budget in November.
- Budget highlights:
  - Flat System Administration Fee for the sixth consecutive year (\$0.555/MWh through 2021)
  - Total spending authorization is \$268 million for FY 2020 and \$275 million for FY 2021
  - Budget includes funding for Real-Time Co-optimization and other key initiatives

# Major Projects Update

Project	Trend	Active Work
<b>RIOO – Resource Asset Registration Form Replacement (RARF)</b>	<ul style="list-style-type: none"> <li>RARF replacement targets:               <ul style="list-style-type: none"> <li>December 2019 release for market testing &amp; training of limited view/update resource registration data capability.</li> <li>April 2020 go-live for view/update resource registration data, which will address over 90% of RARF submissions.</li> </ul> </li> <li>Target 2021 RARF retirement.</li> </ul>	<ul style="list-style-type: none"> <li>Validation and readiness activities for December release.</li> <li>Development and testing for March/April release.</li> <li>Planning for post-April delivery schedule.</li> <li>Ongoing market engagement through the Resource Integration Workshops.</li> </ul>
<b>Retail Portfolio Refresh</b>	<ul style="list-style-type: none"> <li>EDI Map &amp; Translator Replacement and NAESB Application Tech Refresh trending towards target market testing period in Q3 2020.</li> <li>Retail Registration System Upgrade targeting a mid-to-late 2021 completion.</li> </ul>	<ul style="list-style-type: none"> <li>EDI Map &amp; Translator Replacement: development and test activities.</li> <li>NAESB Application Tech Refresh: requirements, design, and other planning activities.</li> <li>Retail Registration System Upgrade: project initiation activities.</li> <li>Ongoing updates to Retail Market Subcommittee and coordination as necessary.</li> </ul>
<b>Market Management System / Outage Scheduler Upgrade (MMS/OS)</b>	<ul style="list-style-type: none"> <li>Target project go-live in late 2020/early 2021.</li> <li>Budget increase in support of hardware requirements determined in planning phase.</li> </ul>	<ul style="list-style-type: none"> <li>Defining architecture and technical requirements and execution plan.</li> <li>Coordination with DC4 project addressing hardware refresh at vendor site.</li> <li>Anticipated system freeze Q2-Q3.</li> <li>Coordination with RTC planning team.</li> </ul>
<b>Data Center Refresh (DC4)</b>	<ul style="list-style-type: none"> <li>Trending within overall budget and for final project go-live to occur by year-end.</li> </ul>	<ul style="list-style-type: none"> <li>Remaining 3 of 12 DC4 projects address: telecom VoIP, MV-90 communications, and hardware located at vendor sites.</li> </ul>

# Major Projects: Accomplishments in 2019

ERCOT completed a number of major projects in 2019 to improve data management and training for staff and market participants.

- Training facility – Hosted Black Start training, Operator Training Seminar, and GridEx V
- Generation Interconnection or Change Request (GINR) – Wrapped up core delivery: fixed bugs, added new online payment functionality; GINR is foundation for Resource Integration and Ongoing Operations (RIOO)
- Credit Monitor & Management (CMM) Phase 1 – Upgraded technology and replaced vendor application components, delivered a number of NPRRs
- Identity and Access Management (IAM) – Replaced obsolete system with modern system that supports industry best practices
- Data Center Technology Refresh, Generation 4 (DC4) – Completed four-year project to replace aging equipment with improved hardware



# Progress Report on Key Priorities

- **Real-Time Co-optimization (RTC)**
  - Development of RTC principles continues
  - ERCOT staff will present progress report at upcoming PUC Open Meeting
  - RTC Task Force will present principles to the Board in February 2020 for approval
- **Battery Energy Storage**
  - Battery Energy Storage Task Force has identified key topics and concepts for the integration of energy storage resources
  - Development of NPRRs to address technical requirements, modeling needs, rules, etc. is underway
- **Distributed Generation Resources**
  - Issued market notice to temporarily limit interconnection of new Distributed Generation Resource projects while rules and requirements are developed
  - Hosted the first of a series of stakeholder workshops to gather input on the new requirements

We will provide status updates at each Board meeting in 2020.



# 2019 R6 Release Summary

## R6 Release Dates: December 10–12, 2019

- 135 Change Requests across the application areas
- NPRRs and PGRRs delivered in R6 Change Requests:
  - NPRR911 – Improved Calculation of Real-Time LMPs at Logical Resource Nodes for On-Line Combined Cycle Generation Resources
  - NPRR952 – Use of Katy Hub for the Fuel Index Price
  - PGRR072 – Treatment of Generation Resource Retirement and Mothball in Regional Transmission Plan and Geomagnetic Disturbance Vulnerability Assessment
- 12/16 off-cycle
  - NPRR920 – Change to Ramp Rate Calculation in Resource Limit Calculator
- R6 impacted functional areas
  - Data Management & Governance, Energy Management System, Enterprise Integration Nodal Services, Market Management System, Market Participant Identity Management, Market Settlements, Retail Operations, Web Communications



# 2019 Release Summary

- Six full releases in 2019 + five limited releases + weekly off-cycle releases
- Virtually all functional areas affected
- Changes in business requirements addressed:
  - 3 Nodal Operating Guide Revision Requests
  - 33 Nodal Protocol Revision Requests
  - 5 Other Binding Document Revision Requests
  - 7 Planning Guide Revision Requests
  - 1 Resource Registration Glossary Revision Requests
  - 3 Retail Market Guide Revision Requests
  - 4 System Change Requests
  - 2 Verifiable Cost Manual Revision Requests



**2019 Change Requests:**  
**1,035**

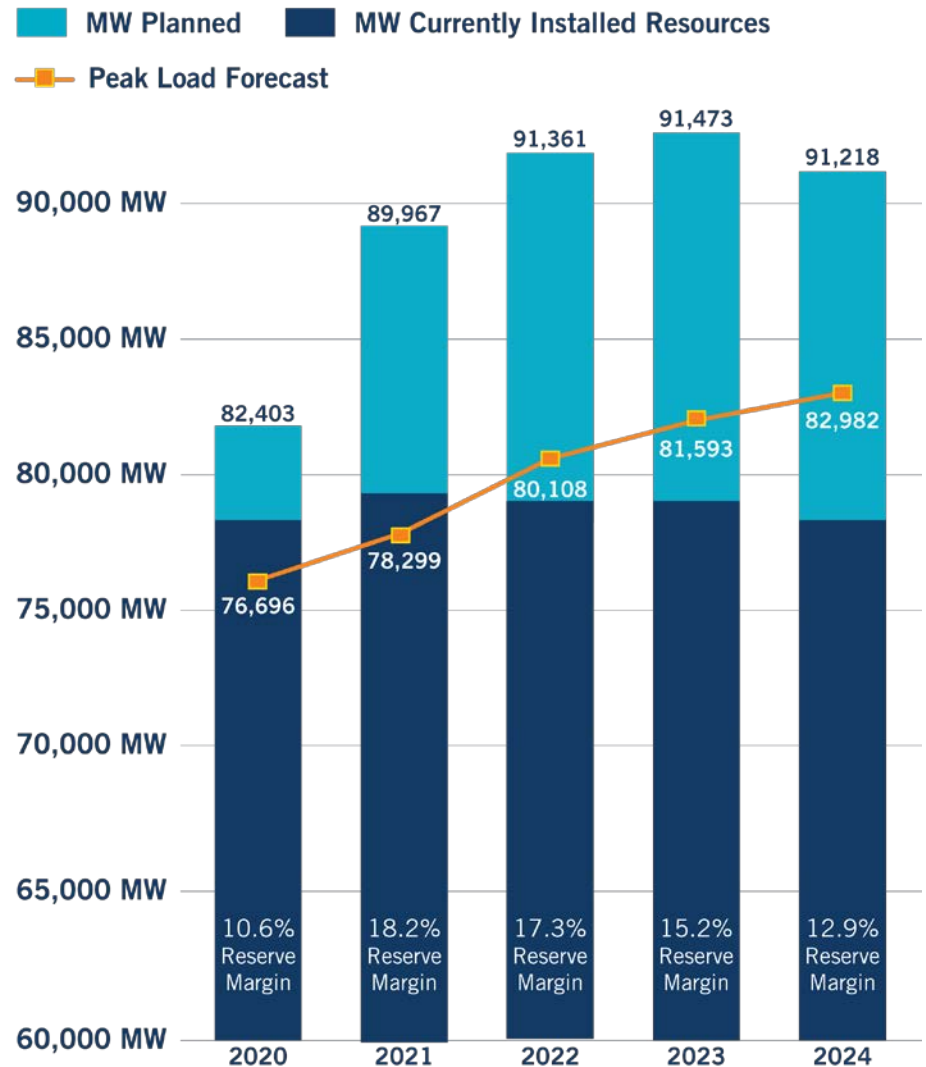
*Up 9.4 percent from 2018*

- R1: 82
- R2: 83
- R3: 85
- R4: 93
- R5: 91
- R6: 130
- Retail 1-6: 9
- Limited Releases: 8
- Off-Cycle: 454



# December Capacity, Demand and Reserves (CDR) Report

- New capacity additions from planned projects for summer 2020 total 7,633 MW and have a summer peak capacity contribution of 2,852 MW
  - 1,227 MW of canceled projects
  - 1,223 MW of delayed projects (1,056 MW of solar)
- Peak load forecast for summer 2020 is 76,696 MW
  - Current system-wide peak demand record is 74,820 MW set on Aug. 12, 2019
- Planning reserve margin for summer 2020 is 10.6%



# Demand and Energy Update

- The weather in October was ... interesting:
  - Austin recorded 11 days of 95 degrees or higher while San Antonio recorded 8 and Dallas recorded 3
  - Amarillo recorded 5.5 inches of snow on Oct. 24 (first snow typically occurs in December)
- New October and November peak demand records
  - 65,197 MW on Oct. 2 between 4 and 5 p.m.
  - 56,372 MW on Nov. 12 between 7 and 8 a.m.
  - All but 3 of ERCOT's monthly peak demand records were set in 2018 and 2019
- Energy use in ERCOT is on track to surpass energy use in 2018

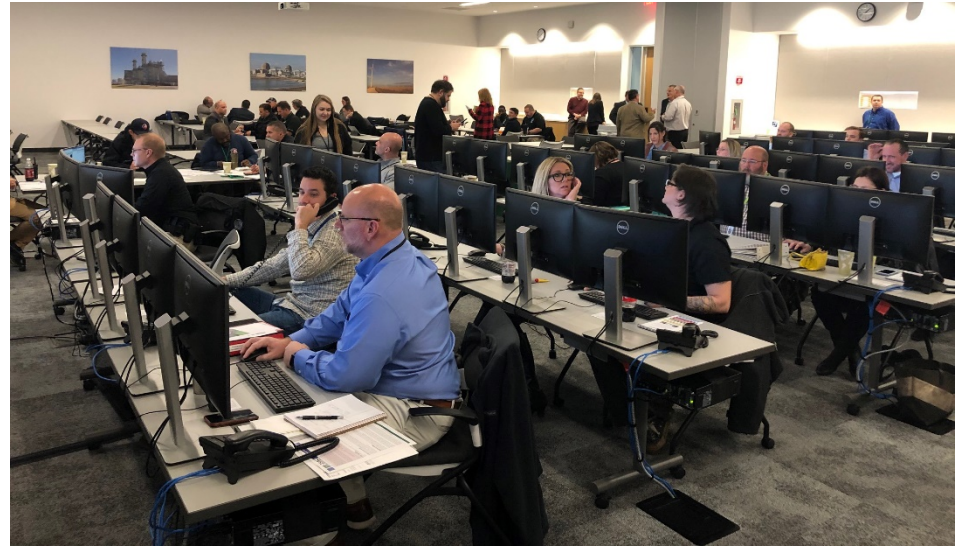
# Year-End Reports

- **Delaware Basin Integration Study**
  - Assesses future transmission needs in Far West Texas for oil and gas customers
- **Regional Transmission Plan**
  - Assesses transmission needs for the next six years
- **Report on Existing and Potential Electric System Constraints and Needs**
  - Assesses recent constraints, planning improvements and projected constraints on the transmission system
  - New format for 2019

These reports will be available on the ERCOT website by the end of December. Board review will take place in February 2020.

# ERCOT Participates in GridEx V

- NERC training exercise included physical and cyber attacks.
- Approximately 75 ERCOT employees participated; market participants conducted their own simulations.
- Government agencies including Texas DPS, Texas Military Forces, FBI and Department of Homeland Security also participated.
- Thanks to PUC Commissioner Arthur D'Andrea and ERCOT Unaffiliated Board Member Terry Bulger for attending, and to ERCOT Director of Critical Infrastructure Security Mike Allgeier for leading the exercise.



*GridEx V training exercise at ERCOT's training facility in Taylor*

# Data Center Technology Refresh, Gen 4 (DC4): Thanks!

- Congratulations to the more than 150 staff and contractors who contributed to ERCOT's Data Center Technology Refresh, Generation 4.
- This was a four-year, \$48 million project to replace aging equipment with improved hardware that is more efficient, reliable and secure.
- Improvements will also result in lower operating and maintenance costs.



From left to right: Jason Chambers, Mike Decker, Mike Stewart, Stacey Fox, Steve Dahl, Richard Crawford, Mark Scarborough, Mark Sprowl, Michael Alexander, Bhushan Walde, Robert Carriker, David Bailey, Bradley Widner, Scott Fleming, Naresh Ancha, Venkat Gajjela & Ken Simmons

Not pictured: Nooresh Bajracharya, Mike Bishop, Jake Brown, Frank Castro, Scotty Clifton, Satish Edhara, John Fisher, Ben Groenewald, Blake Halstead, Ben Hampton, Mark Hutchinson, Ravi Kappagentula, Stacy Nuckolls, John Osborn, Sai Peddineni, Chuck Powers, Luis Quintanilla, Shawn Scott, Rob Stanford, Billy Strickland, Naga Valasagandla & Diana Wang

