



## **Item 7.2: 2021 Major Projects Update**

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Urgent Board of Directors Meeting

ERCOT Public

February 9, 2021

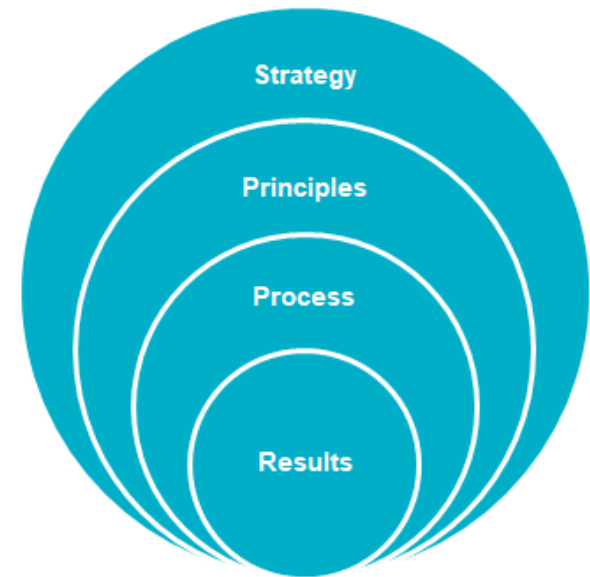
# Agenda

- Project Portfolio Management Improvements
- 2020 Project Delivery
- 2021 Major Project Highlights

## 2020 Improvements

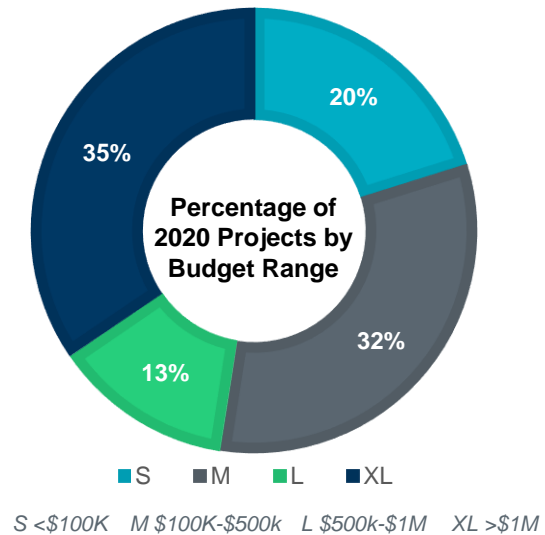
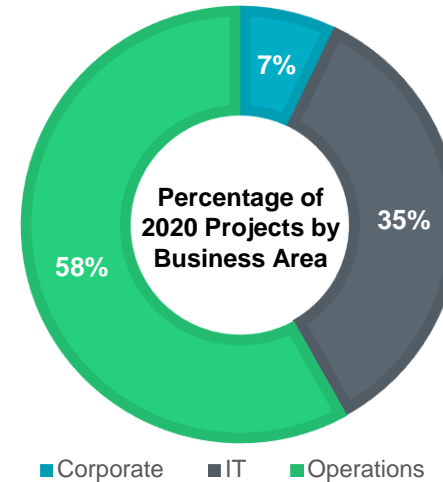
Implemented governance, process, roles & responsibilities, and deliverable changes to shift the enterprise culture for Project & Portfolio Management, based on these principles:

- Accountability and empowerment;
- Early risk identification and mitigation;
- Transparency and information sharing; and
- Efficient use of ERCOT, Inc. resources.



# 2020 Project Delivery

- At any point in time, typically running ~ 40 active projects worth ~ \$60M
- Ran 80 unique projects in 2020
- Finished 29 projects in 2020



# 2021 Objective & Key Results (OKR) Projects

- Deliver defined stages of the Passport Program
  - Fast Frequency Response Advancement (Pre-Passport)\*
  - Distribution Generation Resource (DGR) and Distribution Energy Storage Resource (DESR) Implementation (Pre-Passport)\*
  - Battery Energy Storage (BES) Combo Model Implementation (Pre-Passport)\*
  - Implementation of NPRR986 BESTF-2 and NPRR971(Pre-Passport)\*
  - Various Passport Program Projects to implement Real-Time Co-Optimization (RTC), BES, DGR, ERCOT Contingency Reserve Services, and the Energy Management System (EMS) Upgrade
- Complete market-facing initiatives advancing reliable operations, market systems and data transparency
  - Resource Integration & Ongoing Operations (RIOO)\*
  - Enterprise Content Management System (ECMS)\*
  - MMS/OS Tech Refresh
  - Retail Portfolio Refresh
- Implement Improvements in technological capabilities & financial process
  - Data Center Refresh (“DC5”)
  - Treasury Automation



\*Planned for inclusion in regular 2021 Major Projects Update reporting

# Fast Frequency Response (FFR) Advancement

*Deliver defined stages of the Passport Program*

- Implement changes to improve the usability of FFR, provide more flexibility to Market Participants, and permit a more effective and efficient permanent implementation in the Energy and Market Management Systems.
- Implementation Plan
  - Required completion before Passport delivery
  - In Planning
  - OKR Target: Complete Planning in May 2021
  - Current Budget: \$2.3M

# DGR & DESR Implementation

*Deliver defined stages of the Passport Program*

- Implement the interim solution for Distribution Generation Resources (DGRs) and Distribution Energy Storage Resources (DESRs)
  - NPRR917 Nodal Pricing for SODGs and SOTGs
  - NPRR1016 Clarify Requirements for DGRs and DESRs
  - NPRR1052 Load Zone Pricing for Settlement Only Storage Prior to NPRR995 Implementation
  - NOGRR212 Related to NPRR1016
  - PGRR082 Revise Section 5 and Establish Small Generation Interconnection Process
  - RRGRR026 Related to NPRR1016, Clarify Requirements for DGRs and DESRs
- Implementation Plan
  - Required completion before Passport delivery
  - In Planning
  - OKR Target: Implement in December 2021
  - Current Budget: \$1.1M

# BES Combo Model

*Deliver defined stages of the Passport Program*

- Implement the “combo model” interim solution that allows batteries to connect and participate in ERCOT while the battery is represented in ERCOT systems as a Generation Resource & a Controllable Load Resource.
  - NPRR963 Base Point Deviation Settlement & Deployment Performance Metrics for ESRs (Combo Model)
  - NPRR987 BESTF-3 ESR Contribution to Physical Responsive Capability and RT On-Line Reserve Capacity Calcs
  - NPRR989 BESTF-1 ESR Technical Requirements
  - NPRR1002 BESTF-5 ESR Single Model Registration and Charging Restrictions in Emergency Conditions
  - NPRR1026 BESTF-7 Self-Limiting Facilities and Self-Limiting Resources
  - NPRR1038 BESTF-8 Limited Exemption from Reactive Power Requirements for Certain ESRs
  - NOGRR204 Related to NPRR989, BESTF-1
  - NOGRR208 Related to NPRR1002, BESTF-5
  - OBDRR017 Related to NPRR987, BESTF-3
  - PGRR081 Related to NPRR1026, BESTF-7
  - RRGR023 Related to NPRR1002, BESTF-5 (RIOO dependency)
- Implementation Plan
  - Required Completion before Passport Delivery
  - In Planning
  - OKR Target: Complete Planning in March 2021
  - Current Budget: \$727K



*Stay connected through portfolio reporting at PRS*



# Implementation of NPRR986 BESTF-2 and NPRR971

*Deliver defined stages of the Passport Program*

- Implement changes to enable expanded flexibility for fast-acting Energy Storage Resources (ESRs) under the “combo model”, represented in ERCOT systems as a Generation Resource & a Controllable Load Resource. The concepts will be carried over to the single-model implementation in Passport.
  - NPRR 986 BESTF-2 ESR Energy Offer Curves ,Pricing Dispatch and Mitigation
  - NPRR 971 Replacing the Real-Time Average Incremental Energy Cost
  - NPRR 1043 Clarification of NPRR986 Language Related to Wholesale Storage Load
- Implementation Plan
  - Required completion before Passport delivery
  - In Execution
  - OKR Target: Implement in April 2021
  - Current Budget: \$601K



*Stay connected through portfolio reporting at PRS*

# Resource Integration & Ongoing Operations (RIOO)

*Complete market-facing initiatives advancing reliable operations, market systems and data transparency*

- Implement online application for resource asset registration and retire the Resource Asset Registration Form (RARF) spreadsheet
  - Reduce manual effort required by Market Participants & ERCOT
  - Reduce risk of data quality issues
  - Improve data access & transparency
  - SCR781 MP Online Data Entry – Market Requirements
- Implementation Plan
  - Multiple releases in 2020 & 2021
  - Sep 2020 RIOO-RS initial go-live for “View & Update” ( <https://sa.ercot.com/rioo-rs/> )
  - OKR Target: Retire RARF spreadsheet in December 2021
  - Current Budget: \$11.8M

# Enterprise Content Management System (ECMS)

*Complete market-facing initiatives advancing reliable operations, market systems and data transparency*

- Implement the ECMS solution to deliver a fully combined Market Information System (MIS) and ERCOT.com website with benefits to user experience, search capability, information governance, security, and technical health.
- Implementation Plan
  - Multiple releases in 2020 & 2021
  - November 2020: MIS redesign completed ( <https://mis.ercot.com/public> )
  - OKR Target: Combined MIS/ERCOT.com website in November 2021
  - Current Budget: \$6.4M

# Stay Connected

- Board of Directors (all highlighted projects)
- PRS Project Portfolio Updates (all projects)
- Resource Integration Workshops (RIOO)
- MIS and ERCOT.com User Workshops (ECMS)