



## Item 4.1: Projects and Technology Update

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Senior Vice President and Chief Information Officer

Technology and Security Committee Meeting

ERCOT Public

June 17, 2024

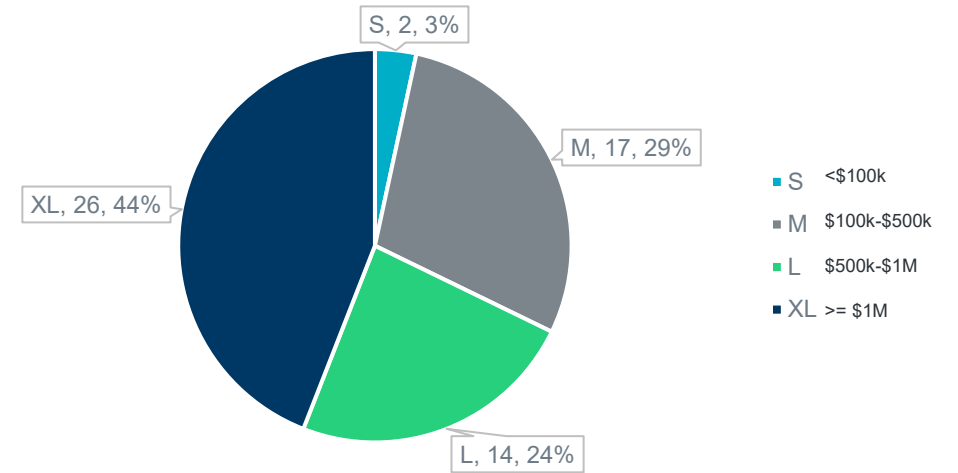
## Highlights

- Improved performance with MMS migration to Linux – went live in May
- CRR performance mitigations
- Our projects are generally on track with normal Project ups & downs.
- Successful inaugural ERCOT innovation summit held in May

**Key Takeaway:** Continuing to maintain the tech health and do enhancements to our systems.

# 2024 Project Delivery

	Feb	Apr	June
YTD Projects Initiated	4	11	21
YTD Projects Closed	2	11	20
YTD Count of Projects Worked	62	69	79
Number of Active Projects	60	58	59
Total of Active Project Budgets	\$167M	\$128M	\$142M

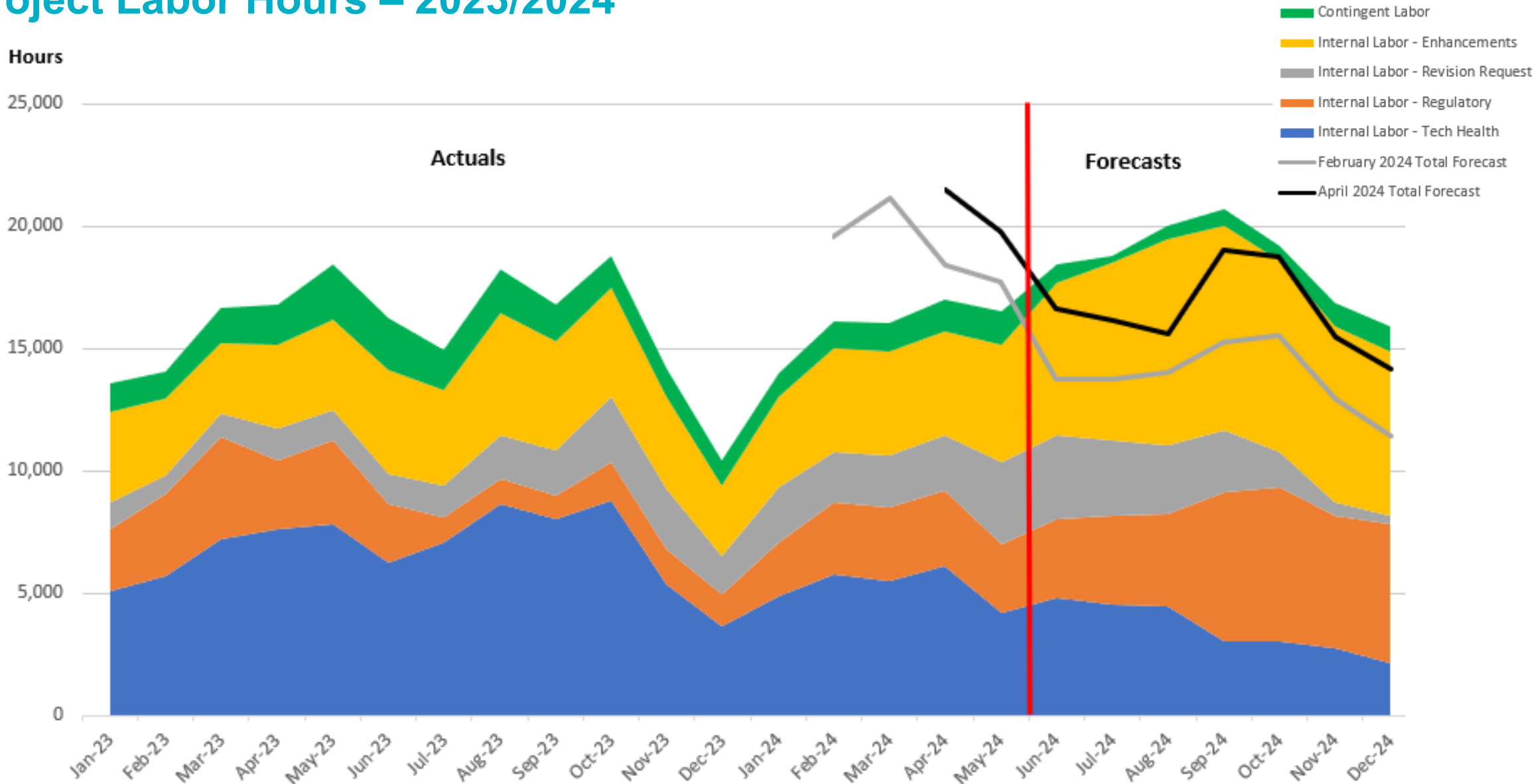


Active Project Estimate at Complete	LTD Actuals a/o Feb BOD	LTD Actuals a/o Apr BOD	LTD Actuals a/o Jun BOD	Forecast a/o Feb BOD	Forecast a/o Apr BOD	Forecast a/o Jun BOD
Internal Labor	18.1M	17.6M	20.5M	30.4M	30.0M	30.8M
Contract Labor	4.5M	4.3M	4.3M	1.4M	1.3M	0.9M
Vendor	16.6M	12.4M	13.5M	7.0 M	6.8M	8.7M
H/W, S/W	53.0M	22.1M	18.2M	26.6M	25.7M	37.2M
Other	2.4M	2.4M	2.5M	4.0M	4.5M	2.6M
Total	94.6M	59.0M	59.1M	69.3M	68.4M	80.1M



**Key Takeaway:** We are managing a healthy volume of projects with no issues to report

# Project Labor Hours – 2023/2024



**Key Takeaway:** Continuing to ramp up and take on new projects

# ERCOT Staff Participation in Projects – June 2024



■ Minimal ■ As-Needed ■ Significant

- Staff with minimal project involvement
  - 122 departments
  - 557 team members
  - 58% of ERCOT staff



■ Minimal ■ As-Needed ■ Significant

- Staff who support projects on an as-needed basis
  - 39 departments
  - 205 team members
  - 22% of ERCOT staff

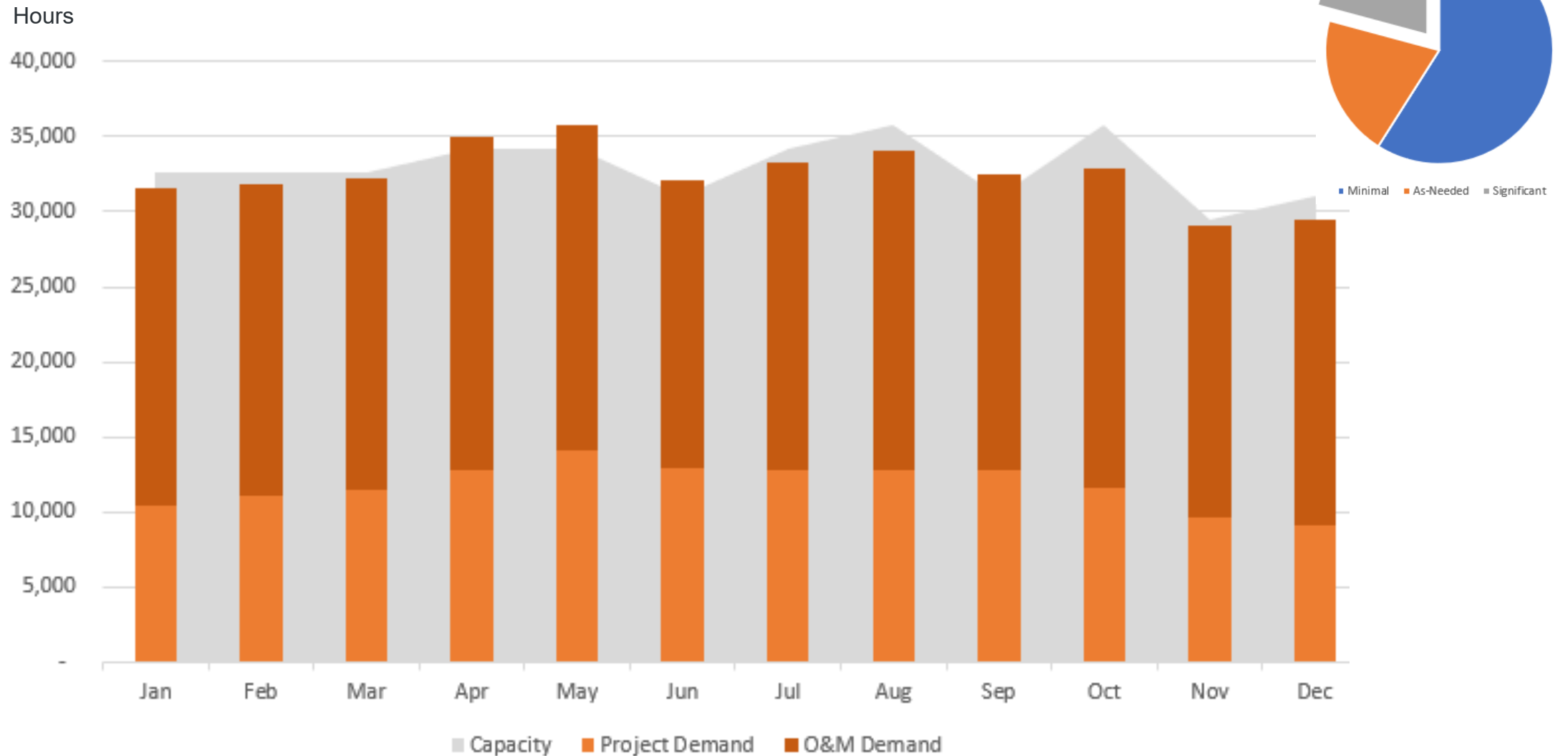


■ Minimal ■ As-Needed ■ Significant

- Staff with significant project involvement
  - 26 departments
  - 194 team members
  - 20% of ERCOT staff

**Key Takeaway:** 20% of ERCOT staff are heavily involved in project delivery

# ERCOT Staff Focused on Project Delivery – 2024



**Key Takeaway: Project delivery staff has material O&M duties**



# Managing Project Input Based on Resource Capacity

## ERCOT manages project demand by evaluating the priority of items in the queue and assessing resource availability

- Our Project & Portfolio Management tool provides a combined view of:
  - In-Flight project labor demands from project schedules
  - Proposed project labor requirements from Impact Analysis reports
- These views give us a good sense on whether a project has the resources required to deliver on a specific timeline
- **If a proposed project has significant resource constraints, we work out those issues before approving a project to start – it may have to be moved to a later target start date**
- On rare occasions, a time-critical high priority project will be approved to start with known resource issues – departments with constraints work to resolve the issues before they become a problem
- If necessary, high priority projects take precedent over in-flight efforts
- There are also times where lower priority projects can start because they require resources with available capacity

**Key Takeaway:** Resource conflicts are managed as early as possible to ensure project success

# ERCOT Application Release this cycle

## Application Release R5,R6 (May, June)

- PR422-01 – Weatherization and Inspection Service Management
- PR404-01 – GridGeo Blackstart - Advanced OTS
- PR464-01 – Securitization Phase 2b
- PR415-01 – SCR819 Improving IRR Control to Manage GTC Stability Limits
- PR373-01 – Forecast Presentation Platform (FPP) - Phase 3 core changes
- PR451-01 – NPRR1149, NPRR1121, NPRR1090, NPRR962
- PR453-01 – NPRR1186 Implementation consideration of ESR SOC in ERCOT tools and studies
- PR458-01 – External Load Forecast
- PR475-01 – NPRR1139 Adjustments to Capacity Shortfall Ratio Share for IRRs

**Key Takeaway:** Continuing to maintain the tech health and do enhancements to our systems.



## ERCOT Application Release next cycle

### Application Release R7,R8 (July, August)

- PR409-01 - Texas SET V5.0 and SCR817
- PR373-01 - Forecast Presentation Platform (FPP) - Reports and Public API
- PR456-01 - RIOO-IS\_RS ESR-Single Model & ESR Validation Rules Update

**Key Takeaway:** Continuing to maintain the tech health and do enhancements to our systems.

# CRR Performance mitigation and Improvements

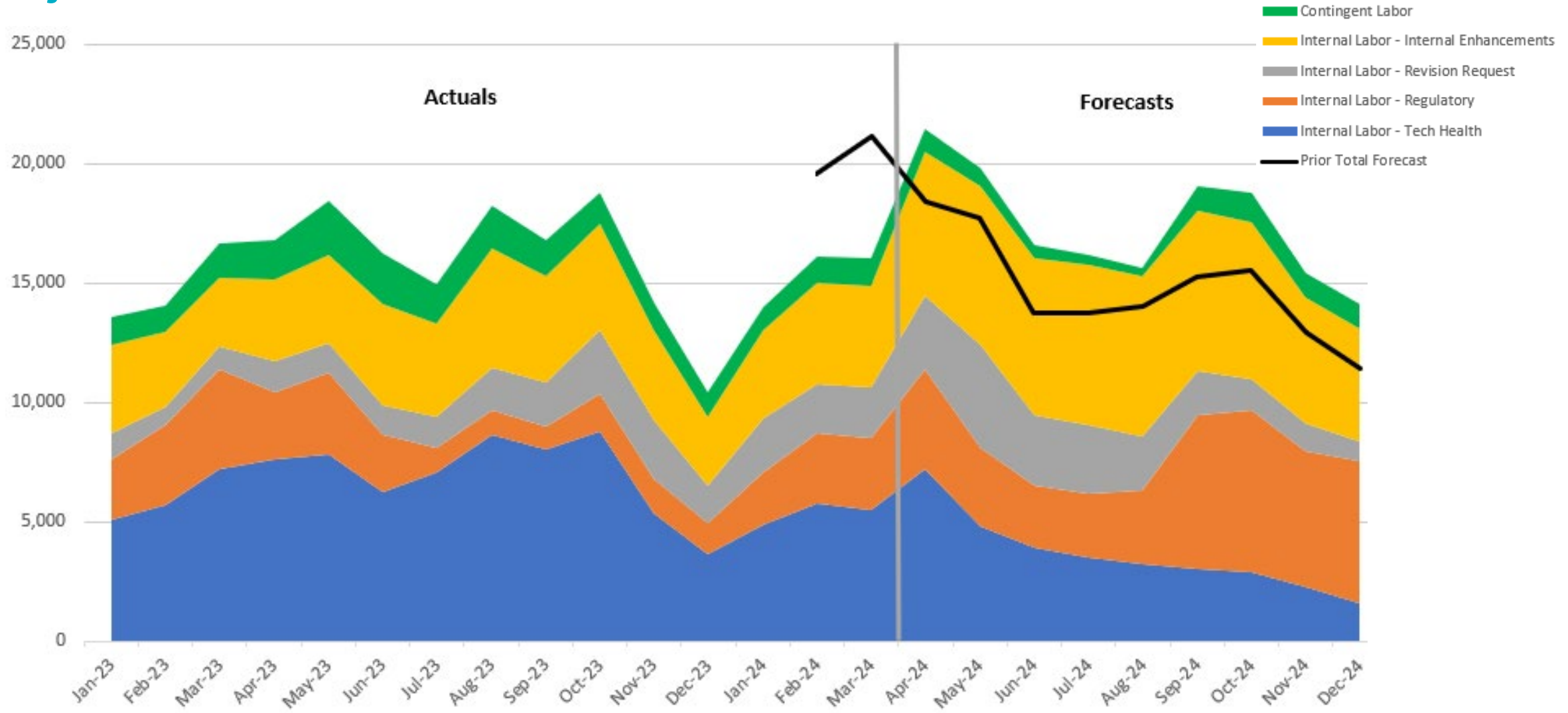
- **Engine Software Improvements**
  - Logic Changes about how violations are processed
  - Tests conducted so far shows same CRR auction results (objective function, revenue etc.) were not impacted with these improvements.
- **Hardware Improvements**
  - Increased CRR engine servers CPUs from 16 to 28 and made hardware specific parameter changes resulting in 20% performance improvements
- **Results from re-run**
  - March Annual Auction that took about 362 hours was re-run with new changes, it completed in about 97 hours.
  - January Annual Auction that took about 143 hours was re-run with new changes, it completed in about 79 hours

**Key Takeaway:** Significant performance improvements achieved with CRR engine software changes and CPUs increase.

# Appendix



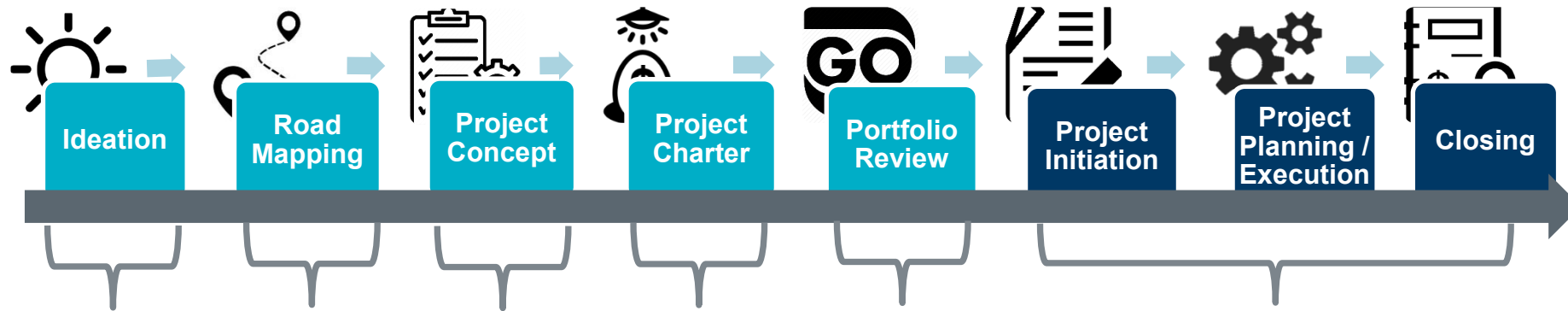
# Project Labor Hours – 2023/2024



**Key Takeaway:** We have ramped up this Quarter and will continue to Summer



# ERCOT's Project Portfolio Process



- Initial idea development

- Determine proposed timing & prioritization
- Road Map Dashboard

- Development of objective, background, strategic alignment, benefits, scope & risks

- Develop the Impact Analysis, resource & system impacts, high level requirements

- Resource analysis
- Executive prioritization
- Approval to proceed (projects with priority and clear resources)

- Official project initiation by the Project Management Office (PMO)
- Project Phases
  - Initiation
  - Planning
  - Execution (includes Go-Live)
  - Closing
- Operational Support hand-off
- Lessons Learned