



Item 6.1: Projects and Technology Update

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Technology and Security Committee Meeting

ERCOT Public

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Highlights

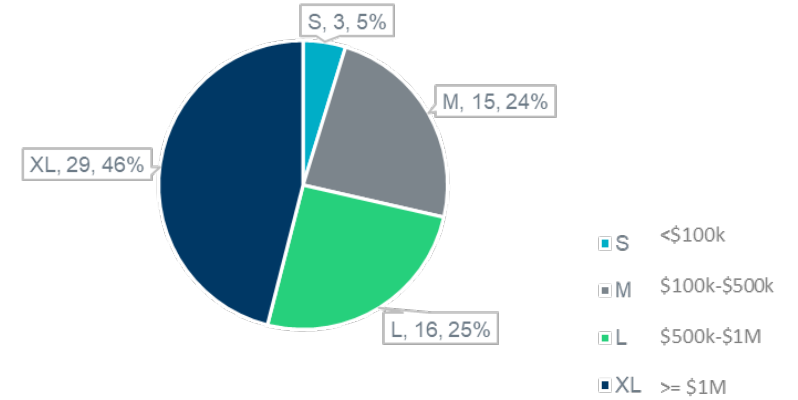
- Our projects are generally on track with normal Project Ups & downs.
- Planned Monthly Site Failovers starting 2025
- Recent CRR engine performance improvements

Key Takeaway: Continuing to maintain the tech health and enhance our systems.

2024 Project Delivery

	June	Aug	Oct
YTD Projects Started	21	32	37
YTD Projects Finished	20	29	30
YTD Count of Projects Worked	79	90	95
Number of Active Projects	59	60	63
Total of Active Project Budgets	\$142M	\$132M	\$138M

Project Volume by Budget Category

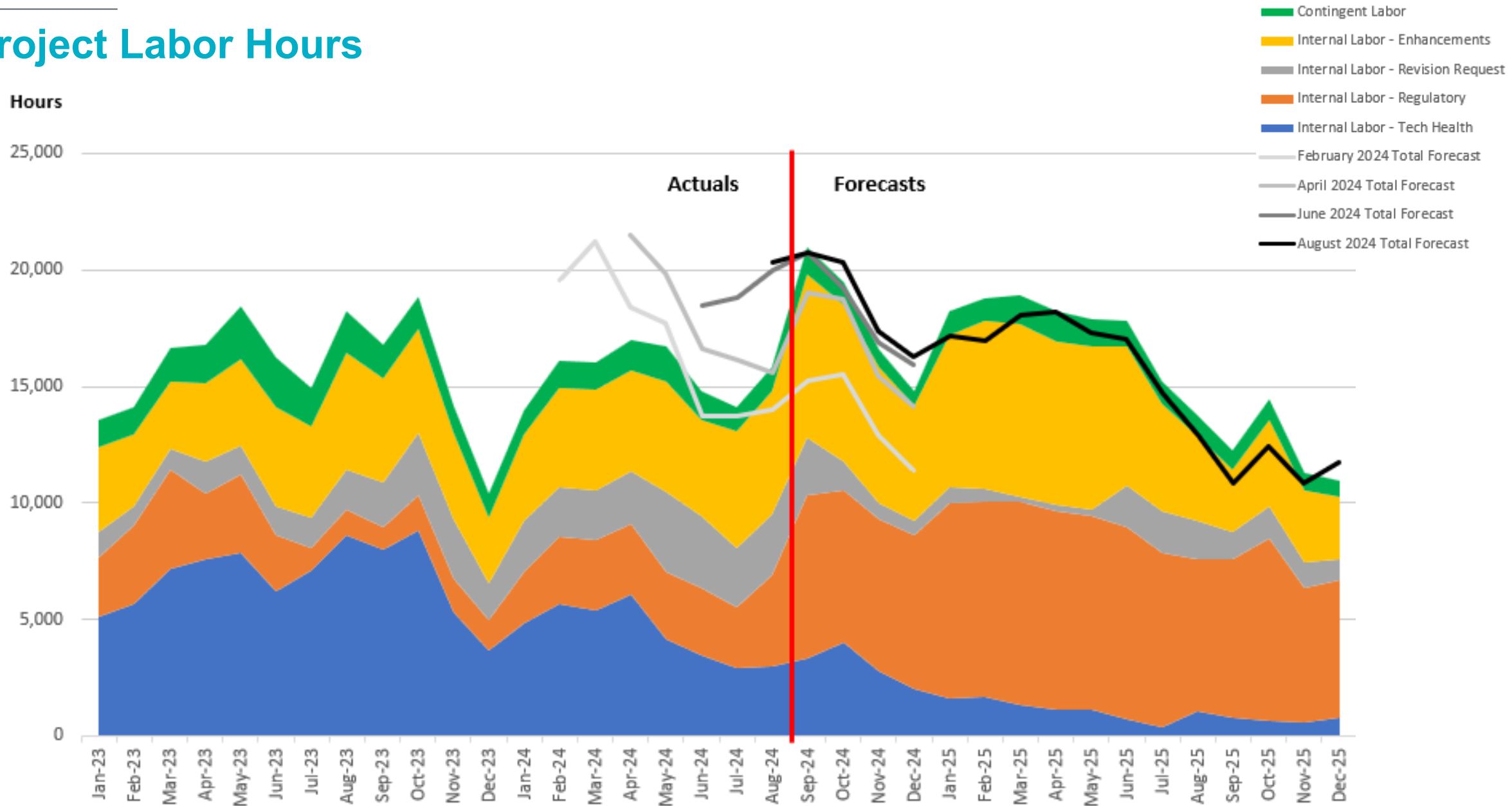


Active Project Estimate at Complete	LTD Actuals a/o Jun BOD (\$MM)	LTD Actuals a/o Aug BOD (\$MM)	LTD Actuals a/o Oct BOD (\$MM)	Forecast a/o Jun BOD (\$MM)	Forecast a/o Aug BOD (\$MM)	Forecast a/o Oct BOD (\$MM)
Internal Labor	20.5	15.8	19.1	30.8	29.2	28.5
Contract Labor	4.3	1.3	1.5	0.9	2.1	1.9
Vendor	13.5	7.1	8.3	8.7	11.8	11.9
H/W, S/W	18.2	20.6	27.8	37.2	33.0	26.8
Other	2.5	0.6	0.7	2.6	2.8	2.1
Total	59.1	45.3	57.4	80.1	78.8	71.1



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

Project Labor Hours



Key Takeaway: We are at peak of our annual labor demand cycle

ERCOT Application Release this cycle

Application Release R9 (September),R10 (October)

- RIOO IS & RS ESR-Single Model & Validation Rules Update
- Texas SET V5.0 and SCR817 (goes live 11/10)
- ERCOT Mobile App Redesign – first release

Key Takeaway: Continuing to maintain the tech health and enhance our systems.

CRR Update

- Vendor delivered couple of CRR engine software changes in last two months, that improved CRR performance further.
- New version of CRR engine software is running in production.
- Overall, around 75% of performance gain observed.

Auction	Run time in hours (CRR Engine with no improvements)	Run time in hours (current CRR Engine with improvements)	Performance Gain (%)
2026.1st6.Seq5 (PWD) ran in Feb, 2024	216	50	76.85
2026.2nd6.Seq6 (PWD) ran in Mar, 2024	358	71	80.16
2025.1st6.Seq2 (PWD) ran in May, 2024	37	11	70

- Vendor is continuing to explore opportunities to improve the software further.
- ERCOT is working on a pilot to test the CRR performance improvement on new hardware with DDR5 RAM.

Key Takeaway: Significant improvements achieved with CRR engine software and hardware changes

Price Correction and System Issues

- Incorrect Recall of ERCOT Contingency Reserve Service (ECRS) impacted Real-Time Market (RTM) prices for Operating Day (OD) August 20, 2024
 - On August 20, 2024, at 8:28:44 PM, ERCOT attempted to recall 500 megawatts (MW) of the 2,000 MW of ERCOT Contingency Reserve Service (ECRS) that was then currently deployed.
 - Software defect in the Energy Management System (EMS) caused all deployed 2,000 MW of ECRS to be recalled.
 - At the time of the recall, Security Constrained Economic Dispatch (SCED) price (System Lambda) was at \$849.75/MWh
 - When SCED ran at 8:30:02 PM, System Lambda spiked to \$5,001/MWh
 - ERCOT operators corrected the deployment of ECRS to 1,500 MW at 8:30:48 PM, and SCED ran at 8:32:00 PM resulting in a System Lambda of \$284.64/MWh
 - EMS display that caused this issue was fixed and deployed into production to prevent this issue happening in future.
 - No reliability impacts were observed during this short period (2 minutes) when ECRS was accidentally recalled.
 - System frequency was stable.
 - ECRS deployments were corrected before the impacted resources were completely ramped to their 8:30 PM SCED interval basepoints.

Key Takeaway: Continue to improve the quality assurance of our applications