



California ISO

2025 Final Budget and Grid Management Charge Rates

Prepared by the Financial Planning and Procurement Department

Approved by the CAISO Board of Governors
on December 19, 2024

Table of Contents

Section	Pages
GMC Revenue Requirement Summary	3 – 8
Budget Development and Content Overview	9 – 14
Operations and Maintenance Budget	15 – 36
Debt Service	37 – 40
Cash-Funded Capital and Project Budget	41 – 53
Other Costs and Revenues	54 – 59
Operating Cost Reserve Adjustment	60 – 62
Grid Management Charges and Other Calculations	63 – 72
Appendix	73
Description of Divisions	74 – 80
Calculation of Operating Cost Reserve Adjustment	81 – 84
Actual and Estimated Volumes	85 – 91

GMC REVENUE REQUIREMENT SUMMARY

2025 Highlights: Rightsizing resources to meet demands drives \$36.6 million increase in GMC Revenue Requirement.

- Proposed revenue requirement of \$238.5 million
 - \$36.6M increase from 2024
 - \$6.5M under 2025 revenue requirement cap
- Operating budget increases by \$20.3M primarily driven by wage inflation and 18 additional positions for consideration
- Cash-funded capital contribution increases to \$25M
- Supplemental service fees increase in alignment with revenue requirement
- New Budget and Grid Management Charge Rates book format

GMC Revenue Requirement History

Fiscal discipline is a priority for CAISO, as evidenced by its history of stable growth of the GMC revenue requirement. Over the years, CAISO has absorbed several major initiatives with no material impact to the GMC revenue requirement. The initiatives include launching the market redesign and technology upgrade (MRTU), constructing its secure primary and secondary locations, implementing the energy management system (EMS), as well as launching the Western Energy Imbalance Market (WEIM) and reliability coordinator services (also known as RC West).

For many years, CAISO's net revenue requirement benefited from offsetting revenue, such as from WEIM administrative charges, growing at a pace faster than expense growth and inflation. However, as of the most recent years' revenue requirements, that trend is reversing. Expense drivers such as additional positions, new tools + resources, and inflation are out pacing the growth in offsetting revenue, which is driving the net revenue requirement to grow. The 2025 net revenue requirement continues the same growth trend, resulting in a 18% increase in the GMC revenue requirement.

GMC Revenue Requirement: The proposed revenue requirement increased by \$36.6 million, primarily due to a higher O&M budget and capital contribution.

GMC Revenue Requirement (\$ in millions)	2025 Budget	2024 Budget	Change	Change %
Operations & Maintenance Budget	\$276.0	\$255.7	\$20.3	8%
Debt Service (including 25% reserve)	14.7	14.7	0.0	0%
Cash Funded Capital	25.0	8.0	17.0	213%
Other Costs and Revenues	(68.6)	(63.6)	(5.0)	8%
Operating Cost Reserve Adjustment	(8.6)	(12.9)	4.3	-33%
Total GMC Revenue Requirement	\$238.5	\$201.9	\$36.6	18%
Transmission Volume Estimate in TWh	248.0	242.5	5.5	2%
Pro-forma bundled cost per MWh	\$0.96	\$0.83	\$ 0.13	16%

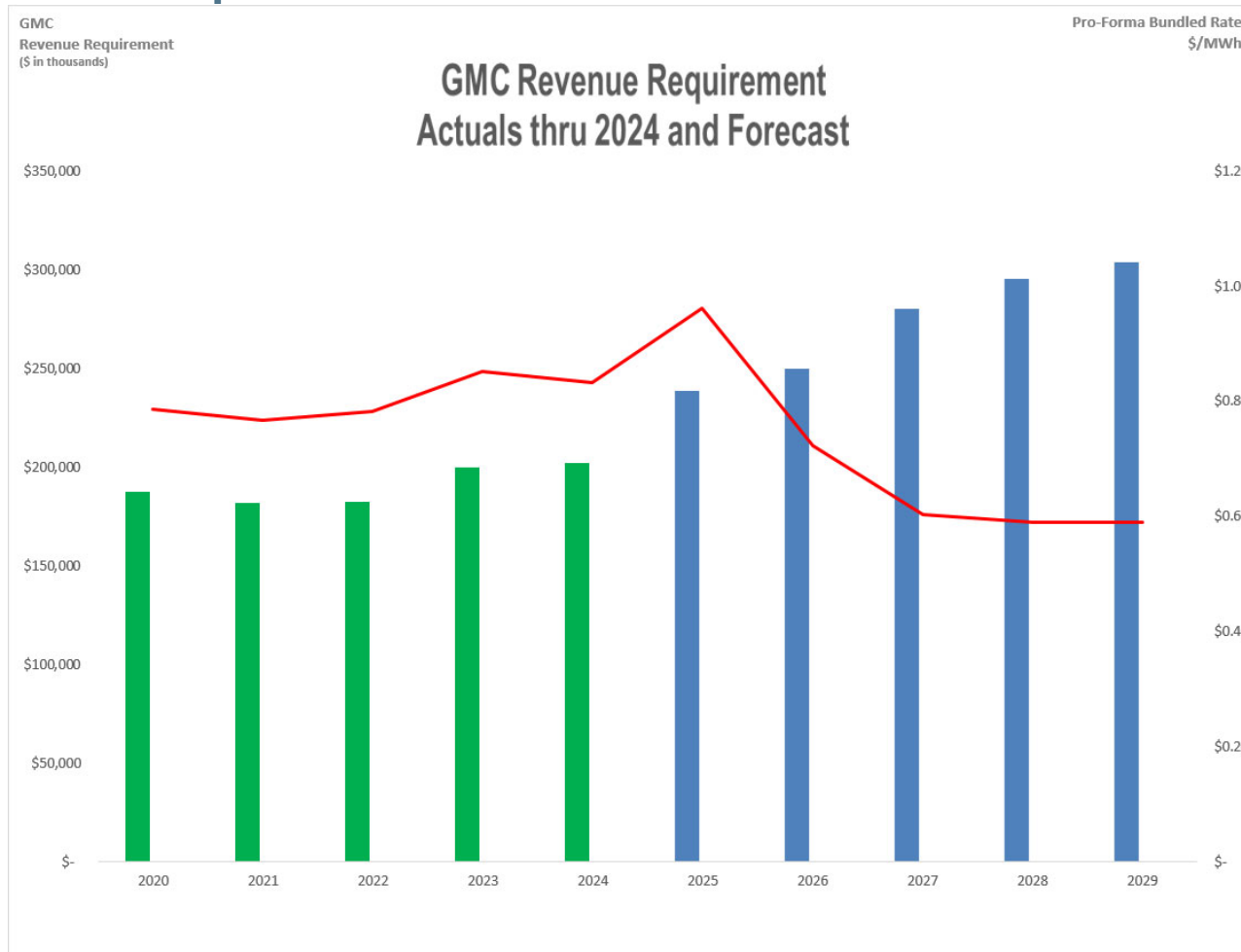
GMC Revenue Requirement: GMC Pro-Forma Bundled Cost per MWh

CAISO's outlook indicates that in 2025, transmission volumes are expected to reach 248 TWh, marking a 2% increase compared to the projected volumes for 2024. These projections are based on a two-year average of actual measured demand volumes and year-to-date 2024 volumes. When the GMC revenue requirement is divided by the projected volumes, the resulting pro-forma bundled cost per megawatt-hour (MWh) is \$0.96, which represents a 16% increase over the 2024 pro-forma bundled rate of \$0.83. This increase in the pro-forma bundled rate is attributed to a higher GMC revenue requirement.

The pro-forma bundled cost per MWh does not represent a single charge that CAISO uses but is intended rather to represent a combination of charges a market participant could expect to pay if they utilized all of CAISO's grid management services, including market services, system operations, and congestion revenue rights services.

GMC Revenue Requirement: GMC Pro-Forma

Bundled rates forecasted to decrease starting in 2026 due to EDAM despite forecasted growth in the Revenue Requirement.



BUDGET DEVELOPMENT AND CONTENT OVERVIEW

Aligning with the CAISO Strategic Plan

The budget aligns with the CAISO's Strategic Plan, which is a guide to meet organizational and operational goals. The plan contains the following objectives:

1. Reliably and efficiently integrate new resources by proactively upgrading operational capabilities;
2. Strengthen resource adequacy and meet California's SB100 goals through long-term transmission planning and effective coordination with state agencies;
3. Build on the foundation of the Western Energy Imbalance Market to further expand Western market opportunities;
4. Provide highly responsive and inclusive stakeholder engagement and customer service; and
5. Create a flexible and adaptive work environment that retains and attracts a highly skilled and engaged workforce.

Aligning with the CAISO Strategic Plan

Aligning the strategic planning process with budget planning provides greater transparency into CAISO's resources and business and operation costs. CAISO remains steadfast in its efforts to manage costs and utilize corporate resources in a smart and prudent manner.

The Strategic Plan provides employees and managers our common goals while the budget explains how CAISO funds and allocates its resources to support its business plans. The budget is built upon a balanced mix of staffing, skills and financial resources.

Budget Development

CAISO's budget is collaboratively developed using feedback from its stakeholders and leadership team. CAISO held its initial 2025 stakeholder meeting in August 2024 and held a follow-up meeting in November 2024 to allow for stakeholder input into the development of the 2025 budget; supporting documentation for the stakeholder meetings are available on the CAISO website .

During the period of August through November, the leadership team weighed in on the development of the budget for the following year.

The Board of Governors will decide on the draft final version of the 2025 GMC revenue requirement during the December 2024 board meeting.

Budget Guidance

Following its firm commitment to fiscal responsibility, CAISO utilizes the Zero-Based Budgeting (ZBB) methodology to develop its O&M budget. ZBB confronts conventional thinking and resource allocations by challenging every line item and assumption. Budget requests under the ZBB method require justification, which helps us avoid over-budgeting, double counting, and automatic budget increases. The result is a well-justified and balanced budget, which is strategically aligned with the focus going into the year.

Budget Package

The budget package consists of the following items:

- O&M budget
- Debt service
- Cash-funded capital and project funding
- Other costs and revenues
- Operating cost reserve adjustment
- Grid management charge components

The O&M budget, the primary focus of this report, is the largest of these components and consists of the costs incurred for annual operations.

The O&M budget is presented in three separate views as noted below:

- By resource (e.g., salaries and benefits)
- By function (e.g., operational services)
- By process (e.g., support customers and stakeholders)

OPERATIONS AND MAINTENANCE BUDGET

Operations and Maintenance (O&M) Budget

The O&M budget is the largest component of the GMC revenue requirement. The budget is developed to cover costs incurred for annual operations.

The \$20.3 million projected increase in the O&M budget is primarily due to merit and other compensation increases, additional positions, additional information technology support and expansion of tools, higher telecommunications expenses, and increased consulting support for studies and projects that have transitioned to a maintenance phase.

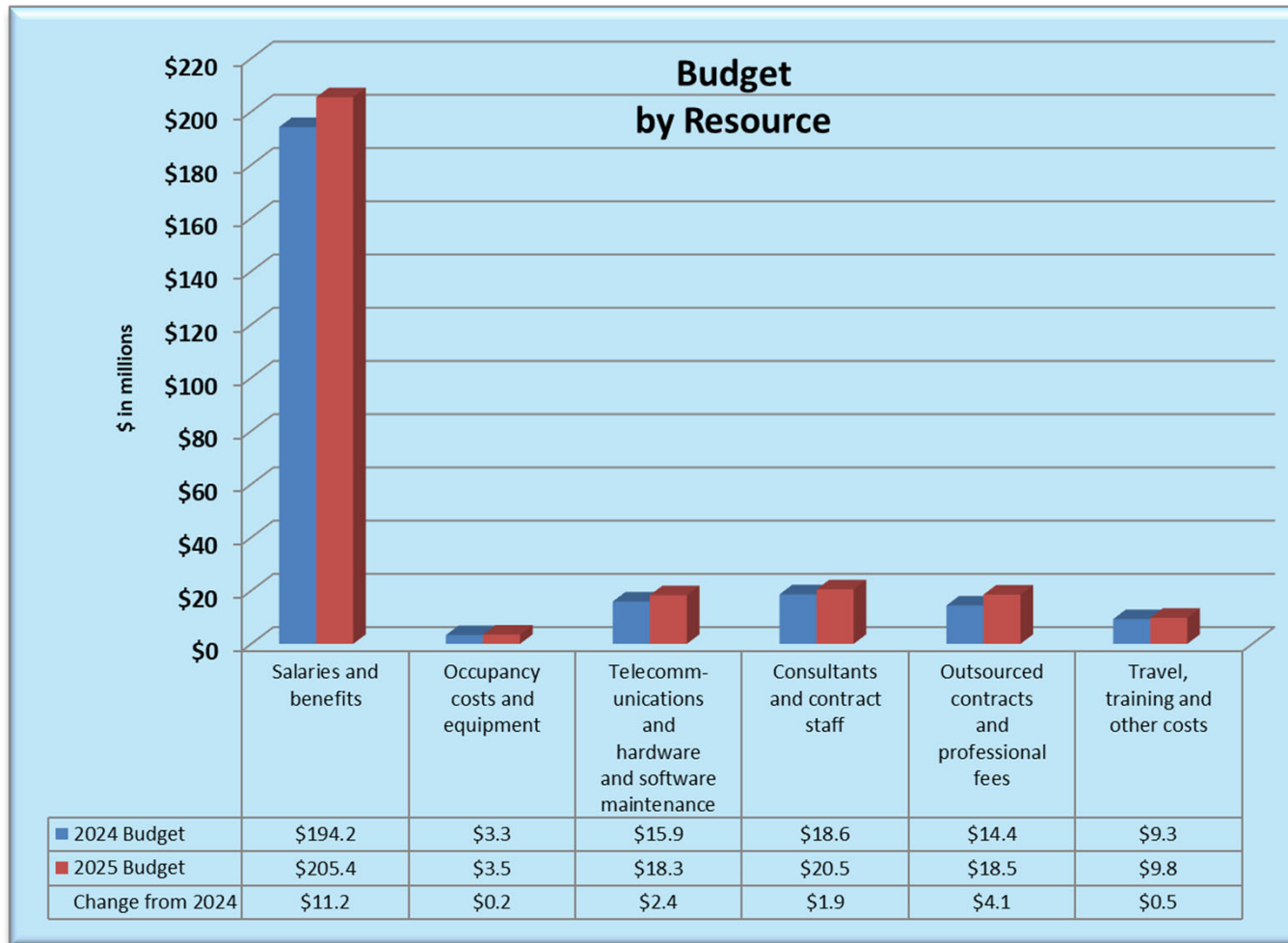
The budgeted positions will increase by 18 to 777.

O&M Budget Summary

O&M Budget by Resource (\$ in millions)	2025 Budget	2024 Budget	Change
Salaries & Benefits	\$205.4	\$194.2	\$11.2
Occupancy Costs & Equipment Leases	3.5	3.3	0.2
Telecom, HW/SW Maintenance Costs	18.3	15.9	2.4
Consultants & Contract Staff	20.5	18.6	1.9
Outsourced Contracts & Professional Fees	18.5	14.4	4.1
Training, Travel, & Other Costs	9.8	9.3	0.5
Total	\$276.0	\$255.7	\$20.3
Budgeted Headcount	777	759	18

O&M Budget Resource View

This section views the O&M budget in the traditional resource categories in which expenses are classified. The 2024 budget reflects reclassifications for it to be comparable to the 2025 budget presentation.



O&M Budget Resource View:

Salaries and Benefits increase by \$11.2M to \$205.4M

The salaries and benefits category comprises 74% of the 2025 and 76% of the 2024 budgets.

The budgeted staffing level for 2025 is 777 employees; an increase of 18 over the 2024 budgeted staffing level.

This 2025 staffing level increase addresses the needs identified by management in multiple divisions inclusive of any internal reassignments.

Staffing Levels	2025 Budget	2024 Budget	Change
Corporate Services			
Chief Executive Officer	33	33	-
Finance	21	21	-
Human Resources	18	18	-
General Counsel	39	38	1
External Affairs	22	23	(1)
Stakeholder Engagement and Customer Experience	31	29	2
Sub-Total	164	162	2
Operational Services			
Chief Operating Officer	38	38	-
Infrastructure and Operations Planning	127	120	7
Power Systems and Market Technology	206	204	2
System Operations	179	176	3
Market Design and Analysis	63	59	4
Sub-Total	613	597	16
Gross Positions	777	759	18
Less Project Office Staff Included in Capital	(10)	(10)	-
Net Positions	767	749	18

O&M Budget Resource View:

Salaries and Benefits continued

The 2025 budget includes a 4% vacancy factor discount in the salary budget. This discount rate helps in realistic workforce planning and financial forecasting by considering the time it takes to hire and onboard new employees, as well as potential turnover or vacancies.

The O&M budget does not include the costs of full-time equivalent (FTE) staff dedicated to capital projects; which are included in the capital budget. The 2025 capitalizable expense related to the FTE is equivalent to ten full-time staff in the Chief Operating Officer (COO) division's Project Management Office. The cost of other staff engaged in capital projects is budgeted in their respective cost centers. Financial statements are prepared in accordance with generally accepted accounting principles that include the capitalization of this labor.

O&M Budget Resource View:

Salaries and Benefits continued

The compensation budget includes funding for employee base salaries, payroll taxes, healthcare benefits, overtime, performance compensation, relocation reimbursement and tuition reimbursement.

The budget also includes salary funds for merit, equity and market adjustments. These adjustments are balanced against salary surveys administered by qualified third-party vendors. Total compensation packages include performance compensation with payouts in the subsequent year based on individual and corporate performance.

Compensation Components With Benefits Burden (\$ in millions)	2025 Budget	2024 Budget	Change
Base Compensation	\$163.1	\$155.5	\$7.6
Overtime (includes structured overtime for grid operators)	\$13.4	\$13.2	\$0.2
Performance Compensation	\$26.9	\$23.5	\$3.4
Other	\$2.0	\$2.0	\$0.0
Total Personnel Expense	\$205.4	\$194.2	\$11.2

O&M Budget Resource View:

Salaries and Benefits continued

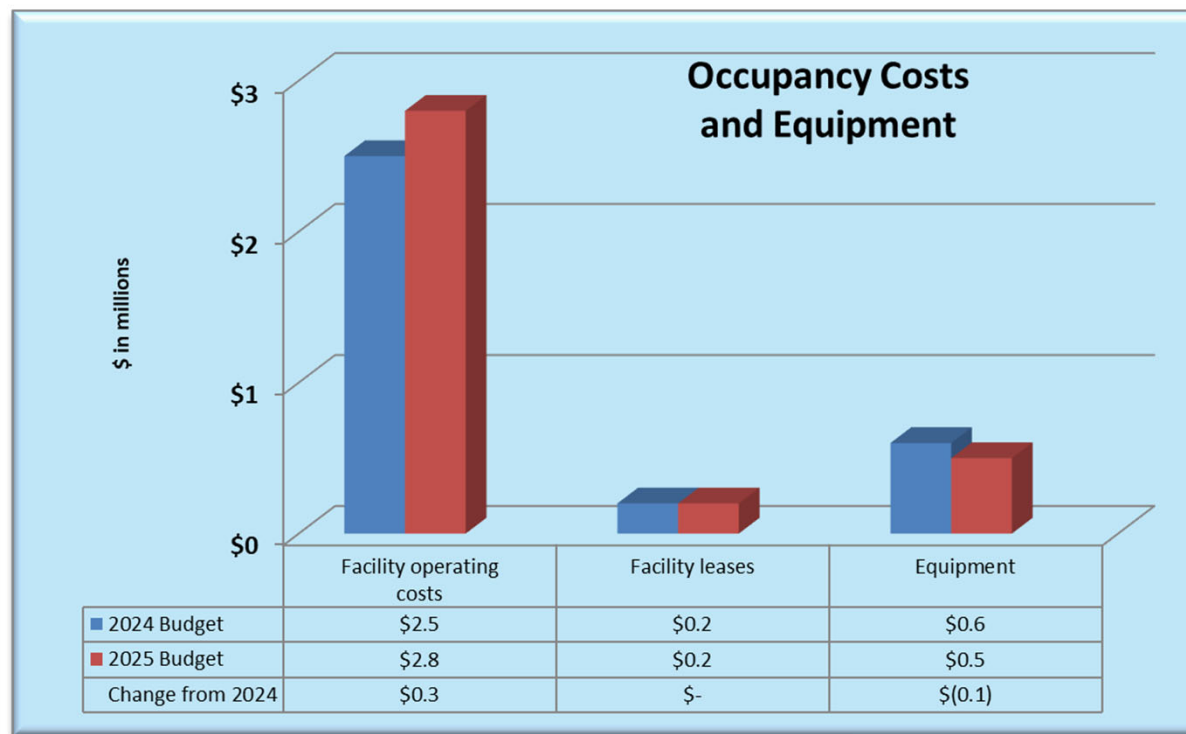
The 2025 employee benefits burden will remain at 30% of salary costs as summarized in the table below. This is achievable through improved claims history, cost controls via the self-funded insurance program, manageable premium increases offered through some benefit providers, and leveraging the self-funded healthcare reserve to help offset some premium costs.

Benefits	Components	Rate
Health, Welfare, and Other Plans	Medical, dental and vision insurances. Also includes employee assistance program, life insurance, accidental death insurance, long-term disability insurance, and worker's compensation.	10.0%
Payroll Taxes	Social security, medicare, unemployment insurance, employment training and disability insurance.	7.0%
Retirement Benefit Plans	Retirement savings benefit plan (401(k)) and executive retirement plans.	13.0%

O&M Budget Resource View:

Occupancy Costs and Equipment increase by \$0.2M to \$3.5M

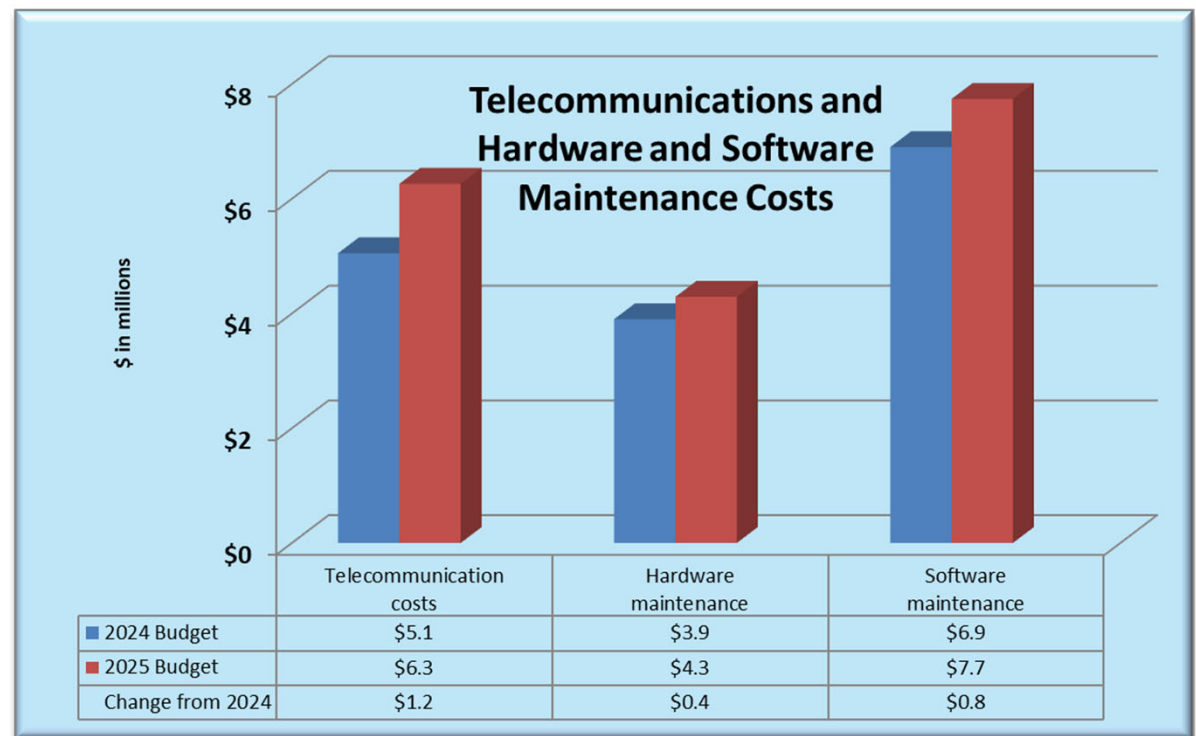
- The \$0.3M increase in facility operating costs is due to increased utility rates, fees, and taxes.
- The nominal decrease in equipment is due to a completed mobile device refresh.



O&M Budget Resource View:

Telecommunications and Maintenance increase by \$2.4M to \$18.3M

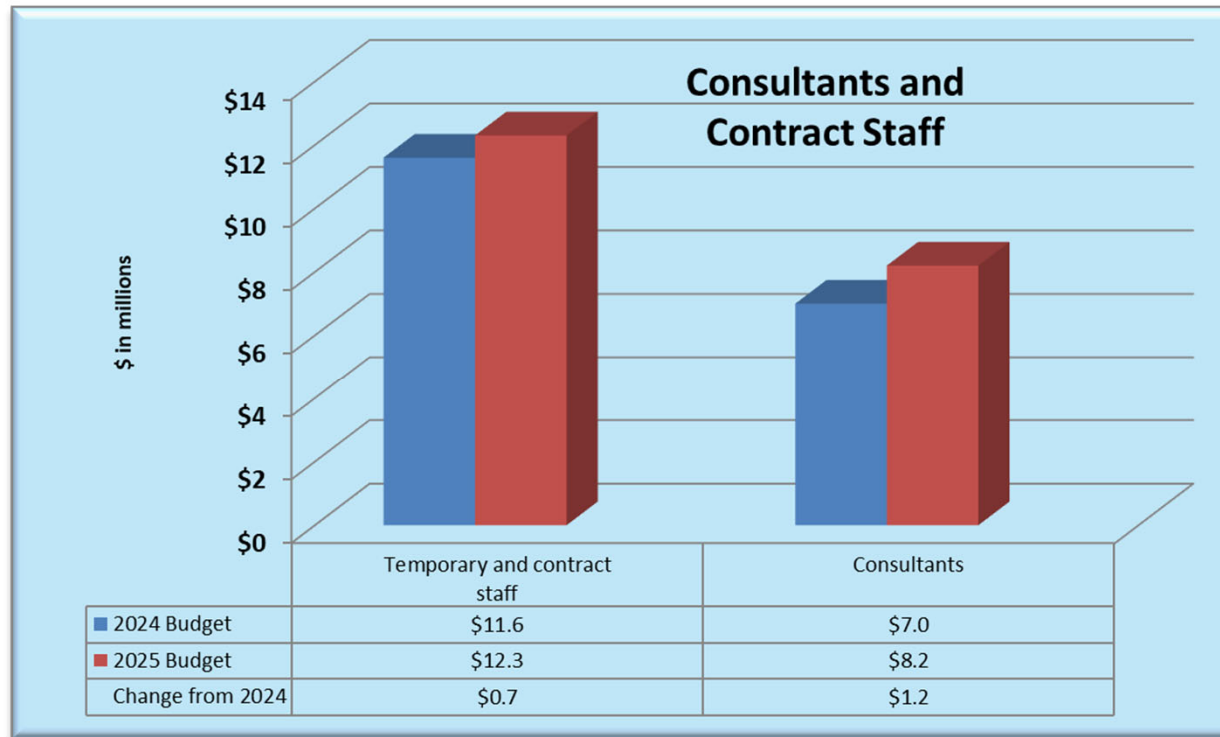
- The \$1.2M increase in Telecommunication costs is due to provider driven increases for select services.
- The \$0.4M increase for Hardware maintenance is driven by support for an increased number of servers and data storage devices.
- The \$0.8M increase for Software maintenance is driven by market application support.



O&M Budget Resource View:

Consultants and Contract Staff increase by \$1.9M to \$20.5M

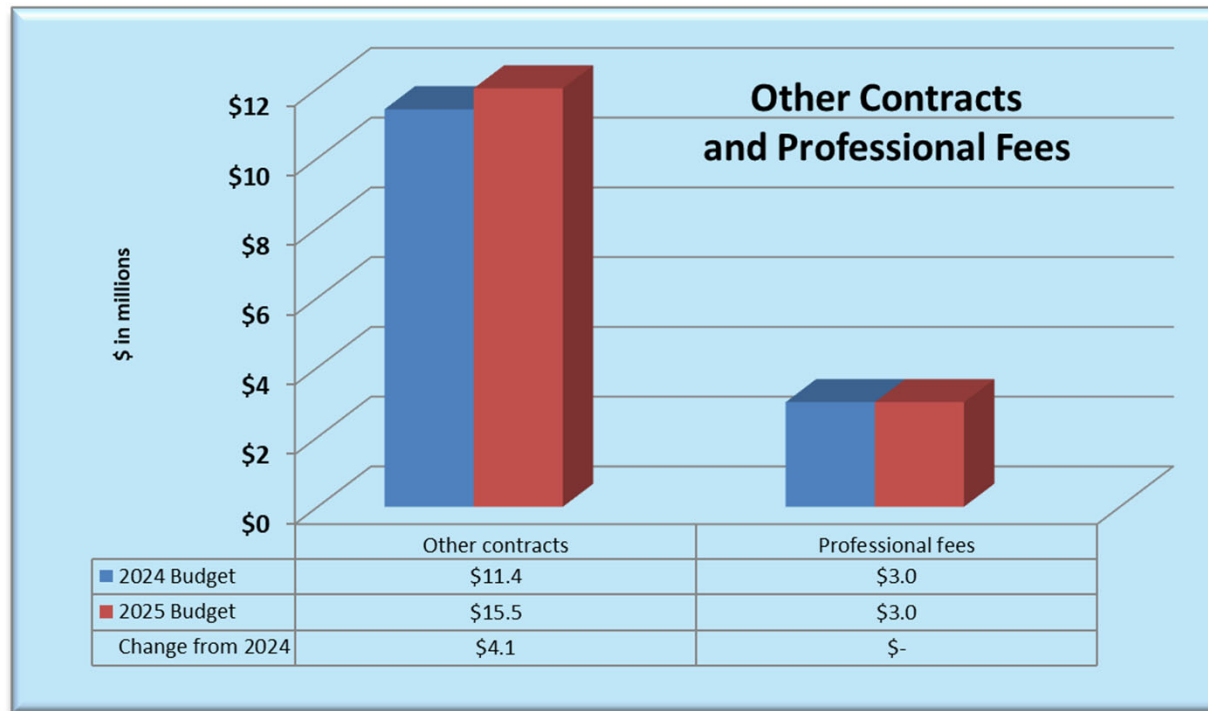
- The \$0.7M increase for Contract staff is for short-term staff augmentation, training program development support, and other contracted maintenance services.
- The \$1.2M increase for Consultants is support for studies and projects that have transitioned to a maintenance phase.



O&M Budget Resource View:

Other Contracts and Professional Fees increase by \$4.1M to \$18.5M

- Other contracts, which represent contracts with third-party vendors for services and Software as a Service (SaaS), will increase by \$4.1 million in 2025. Two primary drivers being: tools for interconnection processing, and tools to support enhanced software development and data analysis. Additionally, the transition to subscription-based licenses and increased license counts for these applications continues.



O&M Budget Resource View:

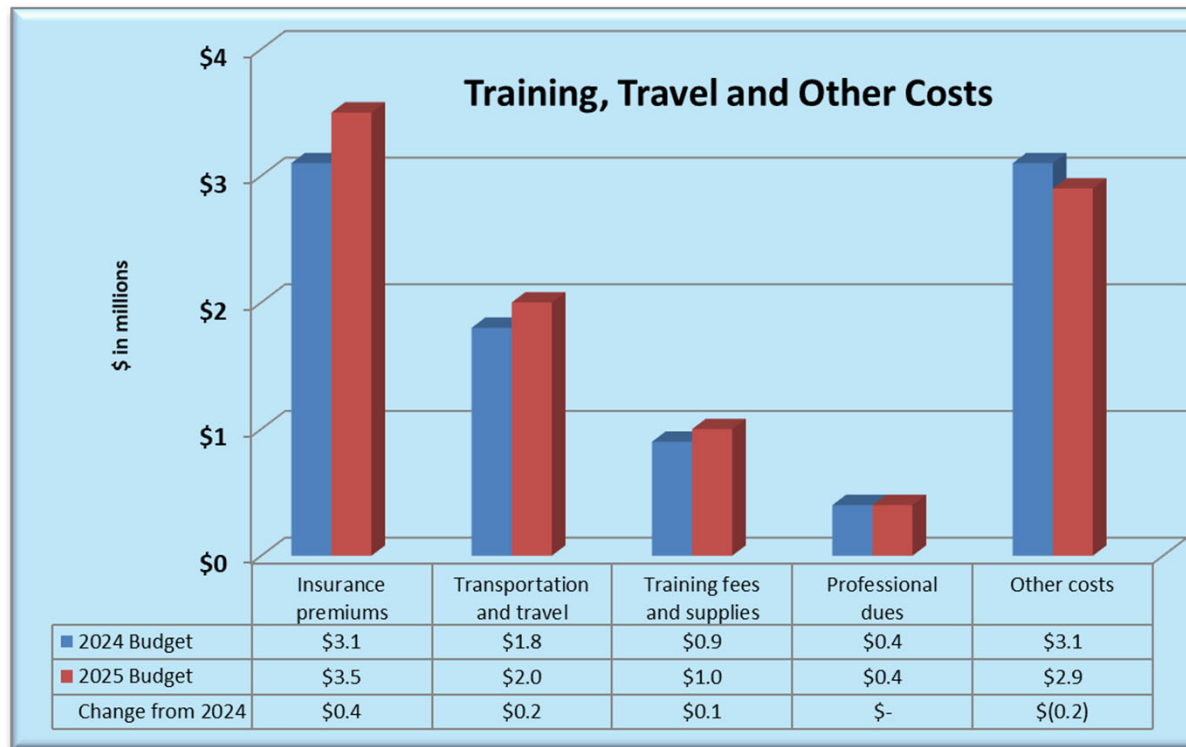
Other Contracts and Professional Fees continued

- A large component of the other contracts resource category is our forecasting costs. Intermittent resources pay a forecasting fee to CAISO of \$0.10 per megawatt hour of generation. These fees, collected from the variable resources, are included in the other costs and revenues component of the GMC revenue requirement to offset the related forecasting costs. Such fees are projected to bring in \$6.5 million in revenue in 2025.
- In addition, CAISO is pursuing Department of Energy grant funding to help offset some of the costs incurred for new interconnection processing tools.
- Professional fees, which are largely outside legal and audit costs, remain unchanged for 2025

O&M Budget Resource View:

Training, Travel, and Other Costs increase by \$0.5M to \$9.8M

- The \$0.4M insurance increase is due to industry driven rate changes.
- The \$0.2M travel increase is for regional training attendance.
- The nominal training increase is for corporate wide efforts.
- The (\$0.2M) other costs decrease is due to not holding a Symposium in 2025.



O&M Budget Resource View: Reconciliation of 2025 O&M Budget

The O&M budget will increase by \$20.3 million, or 8%, to \$276 million in 2025 compared to \$255.7 million in 2024.

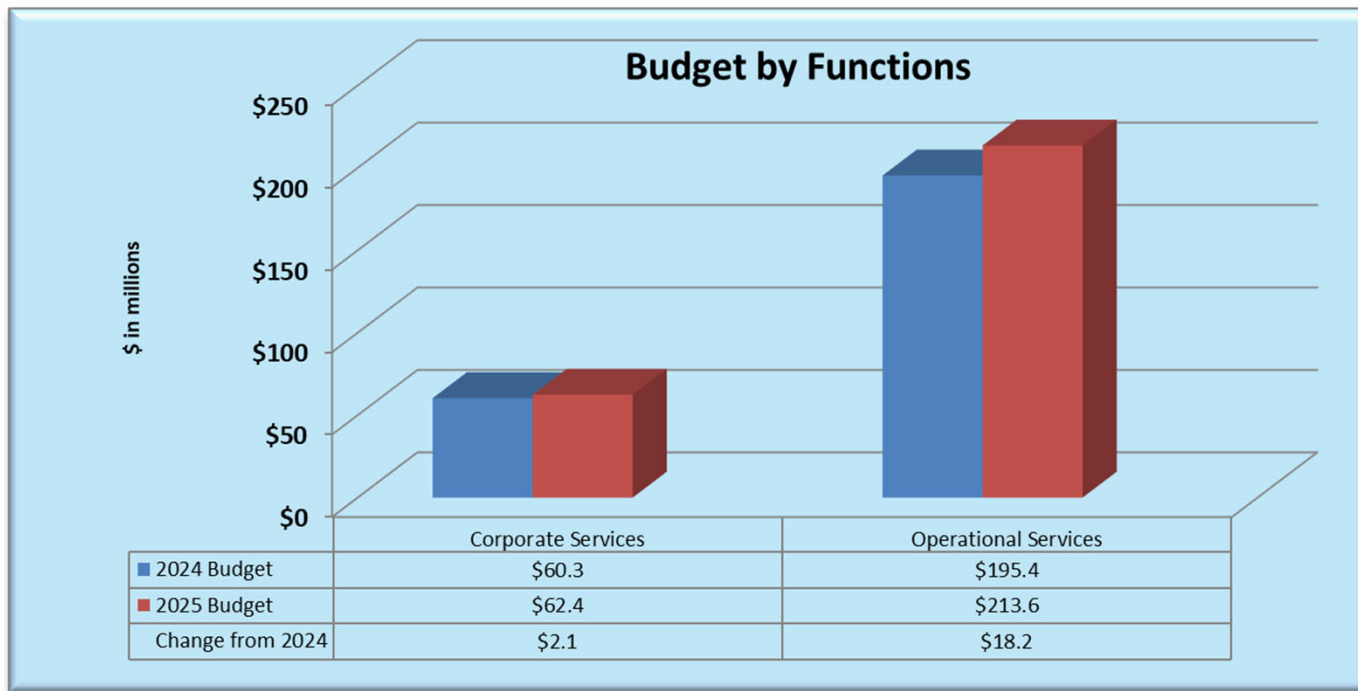
Reconciliation of the
Changes
(\$ in millions)

2024 O&M Budget	\$255.7
Increases in the Budget	
Merit, headcount, and other compensation increases	10.8
Increase in other contracts and services	4.1
Increase in telecommunication & hardware/software maintenance	2.4
Increase in consultants	1.2
Increase in temporary staff	0.7
Increase in overtime	0.4
Increase in insurance	0.4
Increase in facility operating expenses	0.3
Increase in travel & training	0.3
Total Increases	20.6
Decreases in the Budget	
Decrease in equipment	(0.1)
Decrease in stakeholder meetings	(0.2)
Total Decreases	(0.3)
Net Change in Budget	20.3
2025 O&M Budget	\$276.0

O&M Budget Functional View

CAISO divisions* represent two high-level functions in the organization – Corporate Services and Operational Services.

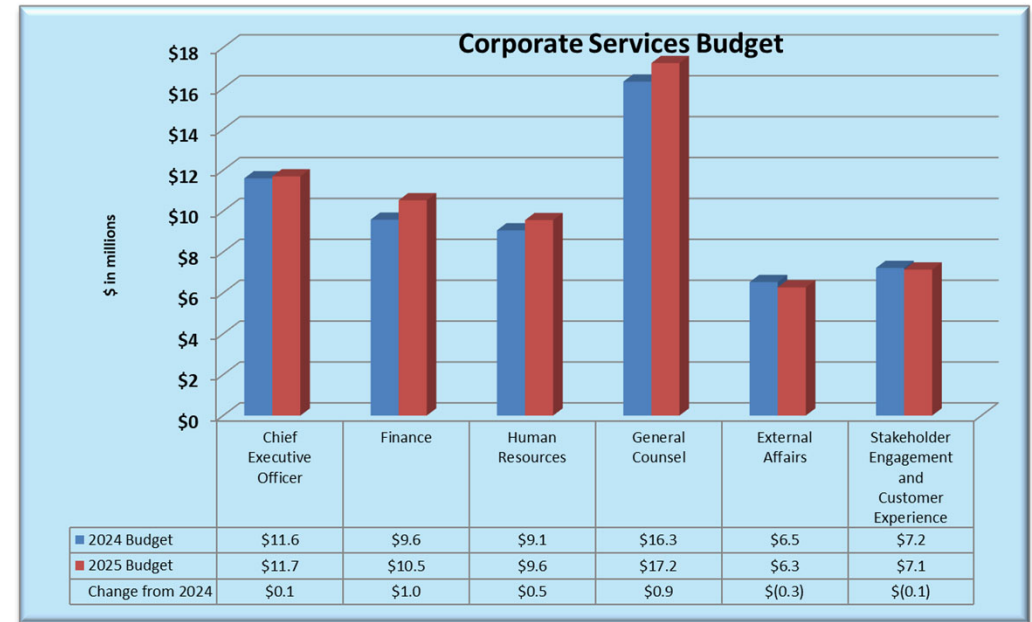
- The Operational Services divisions account for 77% of the 2025 O&M budget, while Corporate Services divisions account for 23%.
- The largest category of spend in both functional areas is Salaries and Benefits comprising 75% of the respective budgets.



O&M Budget Functional View: Corporate Services

The primary non-labor cost drivers in each division are:

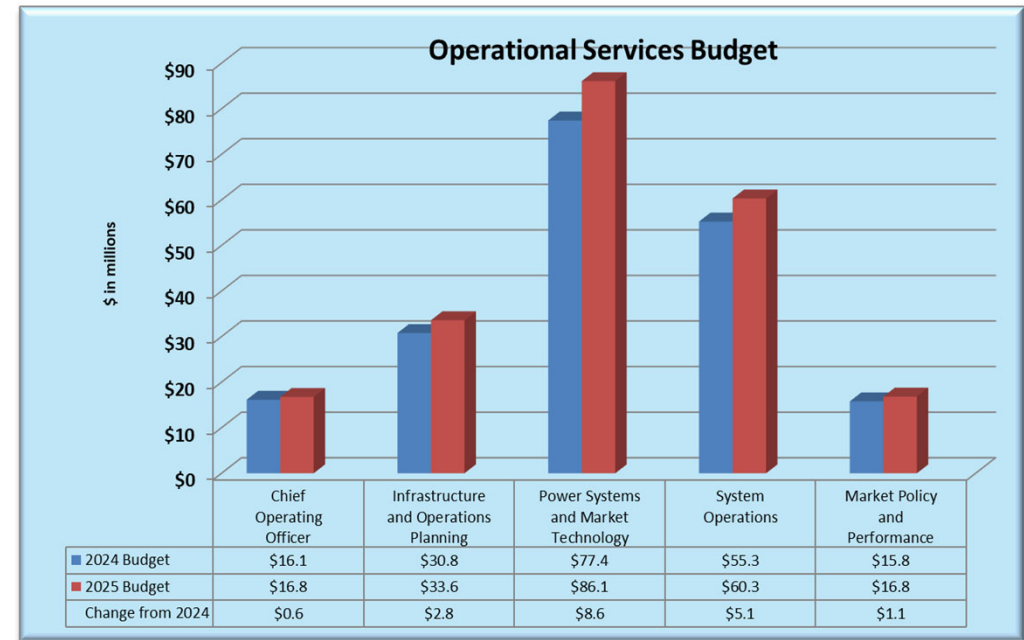
- **CEO division:** corporate memberships, association fees, consulting, and enterprise program management support
- **Finance division:** insurance premiums, financial audit, and bank fees
- **Human Resources division:** corporate training, recruitment, and payroll services
- **General Counsel division:** outside legal and board expenses
- **External Affairs division:** corporate subscriptions, travel, and legislative and public relations support
- **Stakeholder Engagement and Customer Experience division:** stakeholder meetings and customer training



O&M Budget Functional View: Operational Services

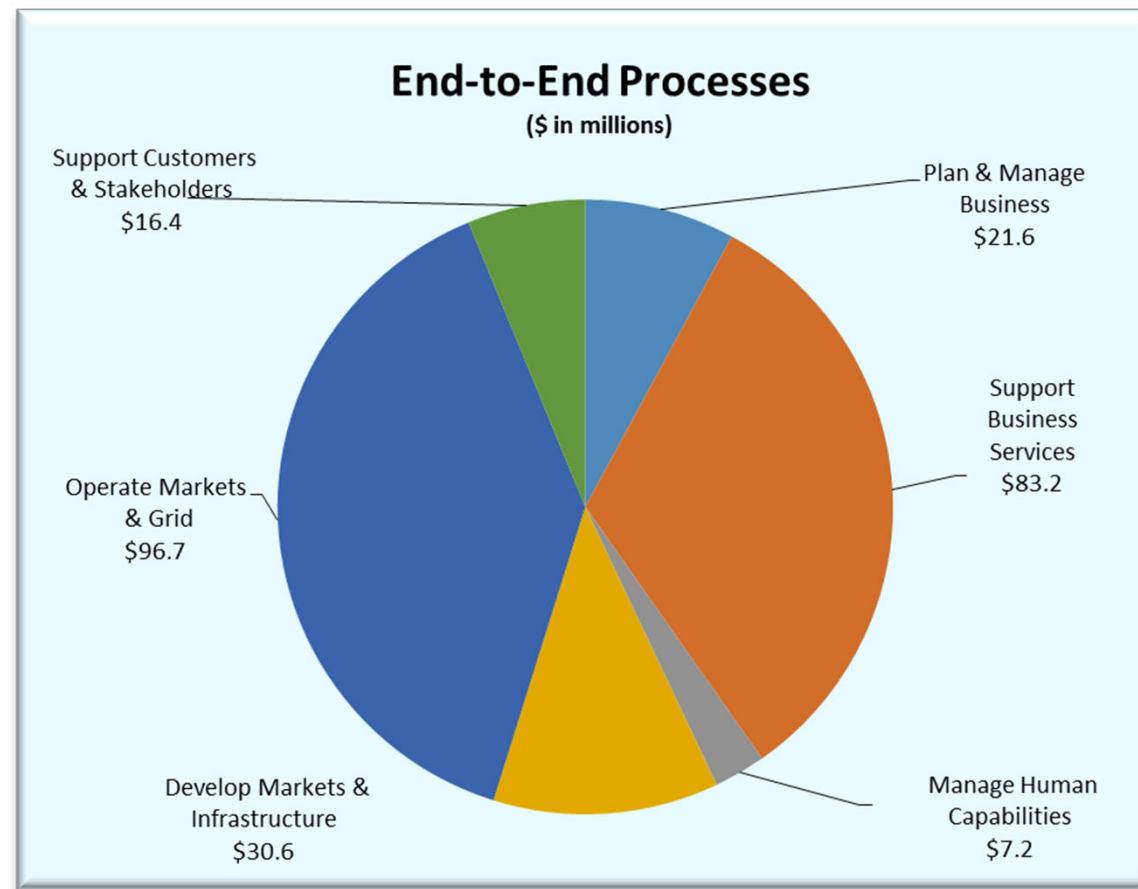
The primary non-labor cost drivers in each division are:

- **COO division:** project management support, facility operating and maintenance expense, and campus security
- **Infrastructure and Operations Planning division:** transmission planning and contracts support
- **Power Systems and Market Technology division:** hardware, software, and application maintenance support, telecommunication expense, and forecasting data subscriptions
- **System Operations division:** operations training programs and energy system data support
- **Market Design and Analysis division:** market surveillance committee expense, policy and meteorological support, and energy data subscriptions



O&M Budget Process View: End-to-End Processes

CAISO uses an activity-based costing system to provide greater transparency and granularity in how the budget supports corporate efforts. In support of this system, all employees record time worked each week to activities that roll-up to the six primary processes as shown and described below:



O&M Budget Process View

The **plan and manage business** process amounts to 8% of the O&M budget, and consists primarily of strategic planning, governance, financial planning and project management.

The **support business services** process amounts to 32% of the O&M budget, and is comprised primarily of information technology, financial, legal and compliance support services.

The **manage human capabilities** process amounts to 3% of the O&M budget, and consists of five primary end-to-end processes that combine to ensure CAISO attracts and retains the skills and talent necessary to achieve business objectives. The processes are: compensation, benefits, recruitment, training and development, and employee relations.

O&M Budget Process View

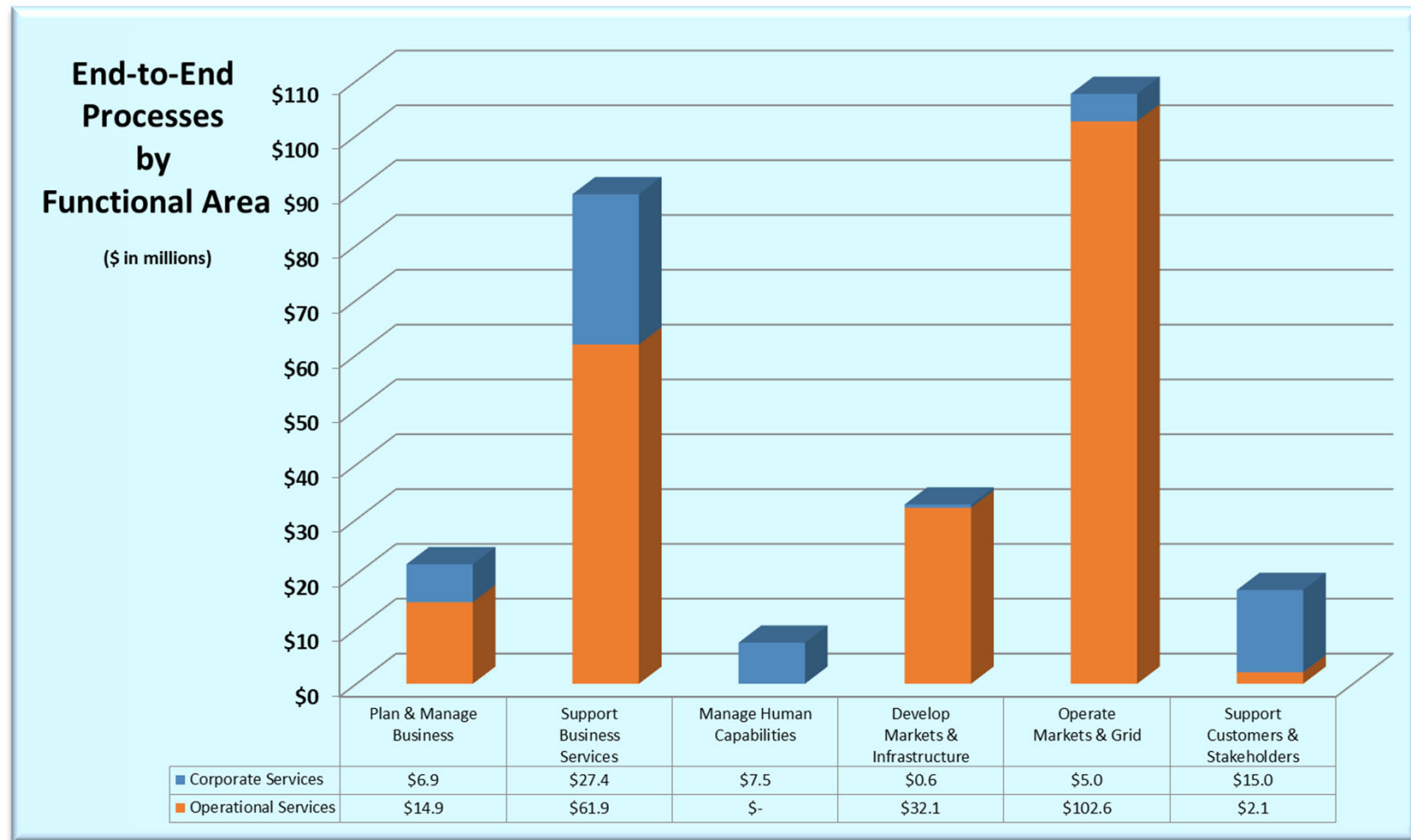
The **develop markets and infrastructure** process group amounts to 12% of the O&M budget and includes two separate processes: 1) support the creation of value-added enhancements to the market design, 2) proactively plan and facilitate grid upgrades. Activities include review and analysis of the efficiency and quality of market results, identifying needed market design improvements, and transmission and generation interconnection planning.

The **operate markets and grid** process group amounts to 39% of the O&M budget, and includes three separate processes: 1) manage market and reliability data and modeling; 2) manage markets and grid; and 3) manage operations support and settlements.

The **support customers and stakeholders** process amounts to 6% of the O&M budget, and consists primarily of client and account management, stakeholder processes, government and regional affairs, and communications.

O&M Budget Process View: End-to-End Processes by Functional Area

In summary, the allocation of process costs by function is shown below.



DEBT SERVICE

Debt Service

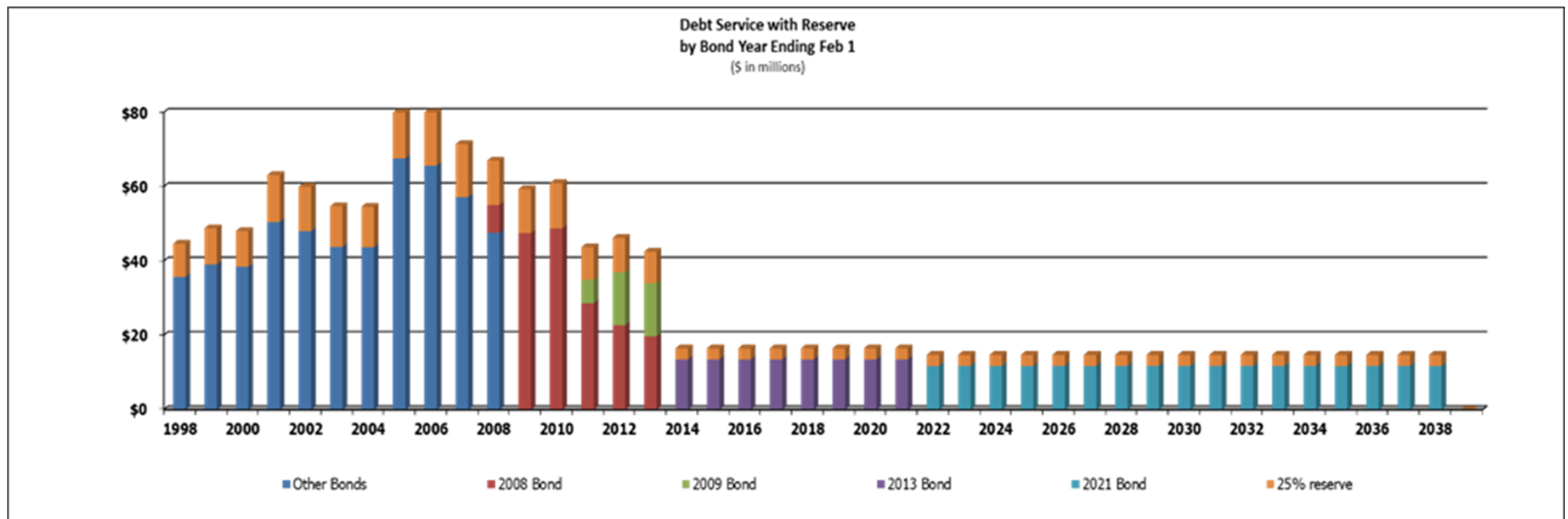
Debt service costs are the principal and interest payments related to the Series 2021 bonds, and the collection of a 25% debt service reserve.

The Series 2021 bonds were issued in January 2021 to refinance the 2013 bonds. The refinancing of the 2013 bonds will save CAISO approximately \$30 million in principal and interest over the life of the bonds. The 2013 bonds were issued to finance the headquarters facility in Folsom, California and to fund other capital expenditures.

Debt Service

The Series 2021 bonds are a level annual debt service until February 2039; the bonds are callable in February 2031.

The graph below provides a summary of the historical and future debt service.



Debt Service

The debt service amount included in the 2025 GMC revenue requirement remains at \$14.7 million. There is \$139.1 million principal remaining to be collected as part of future revenue requirements.

Debt Service (\$ in millions)	2025 Budget	2024 Budget	Change
Principal payments	\$8.9	\$8.8	\$0.1
Interest payments	2.8	2.9	(0.1)
Subtotal	11.7	11.7	0.0
25% debt service reserve	3.0	3.0	0.0
Total Debt Service	\$14.7	\$14.7	\$0.0

The debt service component equals the sum of the semi-annual interest payment due in August of the budget year, the principal and semi-annual interest payment due in February of the ensuing year, and the 25% debt service reserve amount required by the tariff and bond documents.

CASH-FUNDED CAPITAL AND PROJECT BUDGET

Cash-Funded Capital

The GMC revenue requirement's cash-funded capital component has been critical to CAISO's goal of maintaining a stable GMC revenue requirement. Historically, capital projects had largely been funded by debt financing. In 2010, CAISO converted debt service savings in the GMC revenue requirement to the cash-funded capital component. Using these collections as a way to finance capital projects removed the inefficiencies and costs associated with debt financing.

The 2025 cash-funded capital component of the GMC revenue requirement is \$25 million. The project budget is \$30 million to fund projects such as those detailed on the following pages; the \$5 million difference between the amount collected in the GMC revenue requirement and the project budget will come from the cash-funded capital reserves.

The Board of Governors' approval of the 2025 GMC revenue requirement will extend to the project budget as well; the budget is managed separately from the GMC revenue requirement.

Cash-Funded Capital: \$25 million will be collected for capital in the proposed revenue requirement.

Total project budget is targeted at \$30 million to be spent in the following focus areas:

- Portfolio 1: Reliability and Efficient Operations
- Portfolio 2: Technology Foundation Improvements
- Portfolio 3: Transmission Planning Infrastructure
- Portfolio 4: Market and Resource Adequacy
- Portfolio 5: Stakeholder Engagement and Customer Service
- Portfolio 6: People and Culture (generally O&M in nature)
- Portfolio 7: Facilities and Other projects

In 2024 the Board of Governors' approved additional project fund of \$15.2 million from the project reserve for the day-ahead market enhancement (DAME) and extended day-ahead market (EDAM).

Project Budget: Portfolio Project Management

CAISO transitioned to a Portfolio Project Management (PPM) model for organizing initiatives into Strategic Portfolios, which are programs and projects mapped to the 2022-2026 Strategic Plan.

Each of the Strategic Portfolios are assigned to an Officer, designated as the Portfolio Sponsor, who is responsible for authorizing and prioritizing portfolio work, leadership, oversight and decision-making for portfolios.

Project Budget: Corporate Finance Committee

The Corporate Finance Committee (CFC), authorizes the project funding allocation at the Portfolio level for the sponsor to manage and fund projects based on Portfolio priorities. The CFC includes the Chief Executive Officer, VP - Chief Financial Officer and Treasurer, and VP - General Counsel and Chief Compliance Officer. The Board of Governors will approve any projects with a requested start date in 2025 in which the accompanying budgets exceed the \$30 million budget.

Future annual project budgets are estimated to be approximately \$25 million per year; the budgets will be funded through the cash-funded capital component of the GMC revenue requirement and / or the capital reserves. As done in prior years, any unencumbered cash-funded capital amounts will be added to the capital reserves for future projects, which enables CAISO to continue to build a stable revenue requirement for an extended period.

Project Budget: Development Process

The 2025 project budget development process runs from July 2024 through November 2024. The Enterprise Program Management Office (EPMO) collaborates with portfolio sponsors and internal business units to update the enterprise priority project list throughout the year. The projects included on the list are assigned to a portfolio based on alignment with the corporate strategic plan, the information technology roadmap, and the market initiatives roadmap.

Additionally, on an ongoing basis, portfolio sponsors, program management, and project management reviews the progress of active projects, identifies issues and risks, and proposes changes to the project list as necessary.

Portfolio roadmaps and supporting programs and projects support the annual budgeting process to align the strategic projects scheduled for the following year. CAISO leaders prioritize the projects to help determine the most important items, which results in an initial enterprise priority list. Projects are evaluated based on strategic objectives, success criteria, and key business drivers as listed below. The CAISO website contains additional project and release information.

Project Budget: Development Process continued

For the 2025 project prioritization, CAISO has transitioned the scoring criteria to align with the 2022-2026 Strategic Plan replacing the previous strategic criteria with the new strategic and tactical objectives below:

- Reliably and efficiently, integrate new resources by proactively upgrading operational capabilities.
- Strengthen resource adequacy and meet California's SB100 goals through long-term transmission planning and effective coordination with state agencies.
- Build on the foundation of the Western Energy Imbalance Market to expand Western market opportunities.
- Provide highly responsive and inclusive stakeholder engagement and customer service.
- Create a flexible and adaptive work environment that retains and attracts a highly skilled and engaged workforce

Project Budget: Development Process continued

The project requests' business and financial case reviews include the following considerations:

- Does the project require development by market participants?
- Does the project deliver cost savings?
- How much are the project implementation costs?
- Does the project reduce operations and maintenance costs?
- Does the project reduce compliance risks?
- Does the project mitigate any corporate risk?
- Does the project support corporate commitments, goals, and divisional initiatives?

Proposed Project List

The following list provides an indication of the projects proposed for initiation during 2025 within the \$30 million project budget. This list includes seven areas that align with the portfolio classifications listed previously.

The 2025 priorities may change depending on developments during the remainder of 2024 and into 2025. The actual projects completed during 2025 will vary, including the potential addition of projects currently not on the following list, the deferral of projects on this list to future years, or the elimination of projects deemed to be unnecessary.

Proposed Project List

Reliability and Efficient Operations	
Settlements upgrade	Large
FERC order 881 - managing transmission line ratings	Large
Operations foundational improvements 2025	Large
Congestion revenue rights (CRR) system phase 2	Medium
Forecasting improvements	Small
Backup process for real-time assessment	Small
Enterprise model management system (EMMS) changes for FAC-011	Small
Energy information association EIA-930 enhancements	Small
Automatic creation of N-1 contingencies 2024-CA19	Small
Resource and transmission implementation tracking	Small
Total	\$ 10,260,000

Project amounts are categorized as follows: small projects are under \$500,000, medium projects are from \$500,000 up to \$1 million, and large projects are over \$1 million.

Proposed Project List

Technology Foundation Improvements	
Foundational critical infrastructure hardware and software refresh 2025	Large
Remedyforce sunset	Large
Technology systems improvements for production 2025	Medium
End-of-life technology & vulnerability remediation 2025	Medium
Customer interface for resource adequacy (CIRA) upgrade phase 1	Medium
External access to enterprise model management system (EMMS) and powerflow validation	Medium
Market engine improvements	Small
Data fabric AI pilot	Small
MFSOA XML/SOAP deprecation	Small
Western energy markets & flex alert websites enhancements	Small
Total	\$ 11,175,000

Project amounts are categorized as follows: small projects are under \$500,000, medium projects are from \$500,000 up to \$1 million, and large projects are over \$1 million.

Proposed Project List

Transmission Planning Infrastructure	
FERC order 2023 generator interconnection life cycle	Large
Subscriber participating transmission owner model scheduling options	Medium
Total	\$ 2,500,000
Market and Resource Adequacy	
Penalty enhancements - demand response, investigation, and tolling	Medium
Data analytics roadmap	Small
Contingency run prices	Small
Unwarranted storage bid-cost recovery	Small
FERC order 760 enhancement of electricity market surveillance and analysis	Small
Joint owned units pilot use limited status – luna resource	Small
Total	\$ 1,600,000

Project amounts are categorized as follows: small projects are under \$500,000, medium projects are from \$500,000 up to \$1 million, and large projects are over \$1 million.

Proposed Project List

Stakeholder Engagement and Customer Service	
ISO training & certification program (ITCP)	Small
WEIM multi-stage generator (MSG) enhancement	Small
Total	\$ 340,000

Facilities and Other Projects	
Project office internal labor annual funding	Large
Facilities reserve annual funding	Large
Campus operations annual funding	Small
Initialization funding for capital projects	Small
Total	\$ 4,125,000

Project amounts are categorized as follows: small projects are under \$500,000, medium projects are from \$500,000 up to \$1 million, and large projects are over \$1 million.

OTHER COSTS AND REVENUES

Other Costs and Revenues: Diversifying Revenue Streams

Other costs and revenues are net revenues received from sources other than the GMC and reduce the overall GMC revenue requirement. These other revenues include items such as RC funding requirement, WEIM administrative charges, Nodal Pricing Model fee, interest earnings, intermittent resource forecasting fees, generator interconnection project fees, and other supplemental services revenue.

By diversifying its revenue streams, CAISO is able to maintain disciplined growth in its revenue requirement (and ultimately favorable rates) while still developing well-rounded O&M and project budgets that serves its needs.

The 2025 other cost and revenues component is \$68.6 million, an increase of \$5M.

Other Costs and Revenues: \$5M increase is due to the growth in the RC funding requirement and WEIM administrative charges offset by projected lower interest earnings.

Other Costs and Revenue (\$ in millions)	2025 Budget	2024 Budget	Change
Reliability Coordinator Funding Requirement	\$20.7	\$17.6	\$3.1
Western Energy Imbalance Market Administrative Charges	18.4	15.6	2.8
Nodal Pricing Model Fee	9.2	9.2	-
Interest Earnings	8.0	9.0	(1.0)
Intermittent Resource (wind and solar) Forecasting Fees	6.5	6.5	-
Generation Interconnection Project Fees	3.0	3.0	-
Other Revenue	2.8	2.7	0.1
Total Other Costs and Revenue	\$68.6	\$63.6	\$5.0

Other Costs and Revenues: RC Funding Requirement

The RC funding requirement represents the amount of revenue CAISO requires to offset the costs it will incur to provide RC services. The RC funding requirement is calculated as a percentage, known as the RC funding percentage, of the revenue requirement. The RC funding percentage is one of the cost category percentages analyzed in the triennial Cost-of-Service Study. The RC funding percentage is 8% per the results of the 2023 Cost-of-Service Study.

Other Costs and Revenues: Growth in the Revenue Requirement is driving the growth in the RC Funding Requirement.

The 2025 RC funding requirement, as a component of the total revenue requirement, is shown below.

Revenue Requirement (\$ in millions)	RC %	2025 Budget
Operations and Maintenance Budget		\$ 276.0
Debt Service (including 25% reserve)		14.7
Cash Funded Capital		25.0
Other Costs and Revenues		(47.9)
Operating Cost Reserve Adjustment		(8.6)
Revenue Requirement (prior to RC Funding Requirement)		259.2
RC Funding Requirement for January - December 2025	8%	(20.7)
Total Revenue Requirement		\$ 238.5

Calculation of the RC Service Rate

Reliability Coordinator Service Rate	
RC Funding Requirement (\$ in millions)*	\$ 20.7
Projected Volumes in TWh	646.9
Projected RC Service Rate per MWh	\$ 0.0320

*Funding Requirement adjusted for minimum charges

ISO Public

Other Costs and Revenues: WEIM administrative charges and other revenue

WEIM administrative charges are projected to increase to \$18.4 million in 2025 primarily driven by higher GMC rates. As of October 2024, the WEIM currently has twenty-two participating members in eleven western states and produced over \$6.25 billion dollars in gross benefits since its launch in November 2014.

All other components of this category are projected to see little to no change in 2025.

OPERATING COST RESERVE ADJUSTMENT

Operating Cost Reserve Adjustment

The operating cost reserve adjustment is a resulting credit or debit from the prior full year's operations. For 2025, the adjustment is a credit due to favorable operations in 2023.

In addition, in any year that the operating reserve account exceeds 15% of the prospective year's O&M budget, the excess reduces the GMC revenue requirement for the following year. This adjustment also includes the 25% debt service reserve collected in 2024 and the difference between the budgeted and actual revenues and expenses from 2023.

The 2025 operating cost reserve adjustment component is a \$8.6 million credit.

Operating Cost Reserve Adjustment*:

Favorable 2023 collections and spend results lead to \$8.6M reduction in the 2025 revenue requirement.

Operating Cost Reserve Adjustment (\$ in millions)	2025 Budget	2024 Budget	Change
Change in the 15% reserve for O&M budget	(\$3.0)	(\$2.6)	(\$0.4)
25% debt service collection from prior year	2.9	2.9	0.0
True-up of budget to actual revenues and expenses	8.7	12.6	(3.9)
Total Operating Cost Reserve Credit / (Debit)	\$8.6	\$12.9	(\$4.3)

Change in 15% Operating Reserve (\$ in millions)	2025 Budget	2024 Budget	Change
O&M budget	\$276.0	\$255.7	\$20.0
Operating Reserve percentage	15%		
Total Operating Reserve	\$41.4	\$38.4	\$3.0

*See Appendix for Calculation of Operating Cost Reserve Adjustment

GRID MANAGEMENT CHARGES AND OTHER CALCULATIONS

Grid Management Charges

CAISO recovers its GMC revenue requirement through unbundled grid management charges (GMC). Each unbundled service has a corresponding rate, which is paid by service users. Rates are calculated by dividing each service cost by its forecasted billing determinant volume. The result is a rate per unit of use. The current design, implemented in 2012, provides for three volumetric charges and five associated fees and charges. The cost categories consist of market services, system operations, and congestion revenue rights (CRR). The design was updated in 2015, 2018, 2021, and 2024 as a result of Cost-of-Service studies.

CAISO completed its most recent Cost-of-Service Study in 2024; the study used activity-based costing to analyze cost and time data from 2022. The new percentage allocations and fee changes as a result of the study will be effective January 1, 2024 and will remain in effect through the development of the 2026 GMC revenue requirement and resulting charges.

Components of GMC and Billing Determinants

The three service categories, five associated fees and charges, and their billing determinants are as follows:

Type	Bill Determinant	Charge Code
Grid Management Charges		
Market Service Charge	Awards in MWh or MW of supply and demand excluding Transmission Ownership Rights (TORs)	4560
Systems Operations Charge	Metered flows in MWh of supply and demand in the ISO balancing authority with the following two exceptions, TORs and qualifying exempt supply contracts	4561
CRR Service Charge	MWh of congestion	4562
Miscellaneous Fixed Fees		
Bid Segment Fee	Number of bid segments in the ISO market for supply or demand	4515
Inter-SC Trades Fee	Number of trades by scheduling coordinator (SC)	4512
SCID Fee	Monthly charge if statement produced for an SC	4575
TOR Charge	Minimum of metered supply or demand in MWh on TORs	4563
CRR Auction Bid Fee	Number of accepted bids in CRR auctions	4516

Rate Calculation

There are eight steps to calculate rates, as noted below:

1. Estimate billing determinant volumes for fees and charges;
2. Multiply volumes by rates to derive revenues for individual fees and charges;
3. Allocate over or under collection of GMC revenue to the three service categories;
4. Allocate remaining GMC revenue requirement into three service categories;
5. Deduct fee and charge revenue from associated service category costs;
6. Estimate billing determinant volumes for three service categories;
7. Deduct exempt supply volumes from system operations charge; and
8. Divide residual GMC revenue requirement from step 4 by adjusted billing determinant volumes from steps 6 and 7 to derive individual service category rates*.

*See Appendix for Actual and Estimated Volumes

Calculation of Service Category Rates

Component	Market Services	System Operations	CRR Services	Total
Allocation of Revenue Requirement (\$ in thousands)				
Total Revenue Requirement				\$238,496
Adjust for (over) / under collection of 2020 rates	\$2,491	\$710	\$11	3,212
Remaining to allocate				235,284
Percentages	49%	49%	2%	100%
% allocation of costs	115,289	115,289	4,706	235,284
Combined costs	117,780	115,999	4,717	238,496
Deduct Fee Revenue				
Bid Segment Fees	706	-	-	706
Inter-SC Trade Fees	3,734	-	-	3,734
SCID Fees	10,269	-	-	10,269
TOR Fees	-	1,350	-	1,350
CRR Auction Bid Fees	-	-	1,848	1,848
Total Fees	14,709	1,350	1,848	17,907
Calculation of Recoverable Costs				
Costs Less Fees	\$103,071	\$114,649	\$2,869	\$220,589
Projected MWh Volumes				
MWh Volumes	638,309,810	479,439,704	363,112,391	
Resulting Rates / MWh	\$0.1615	\$0.2391	\$0.0079	

Calculation of Fee Revenue

Fee	Rate	Estimated Volumes	Estimated Revenue (\$ in thousands)
Bid Segment Fees	\$0.0050	141,148,206	\$706
Inter-SC Trade Fees	1.00	3,734,198	3,734
SCID Fees (monthly)	1,500	571	10,269
TOR Fees	0.3250	4,152,777	1,350
CRR Auction Bid	1.00	1,847,694	1,848
Total			\$17,907

Summary of Rates

Comparison of Rates (\$ per unit)

Charge Code	Service Category	2025 Rate	2024 Rate	Change	Comments
4560	Market Service Charge	\$0.1615	\$0.1376	\$0.0239	Rate increased compared to the 2024 rate as a result of higher GMC revenue requirement to collect for the Market Services cost category.
4561	Systems Operations Charge	\$0.2391	\$0.2127	\$0.0264	Rate increased compared to the 2024 rate as a result of higher GMC revenue requirement to collect for the System Operations cost category.
4562	CRR Services Charge	\$0.0079	\$0.0069	\$0.0010	Rate increased compared to the 2024 rate as a result of higher GMC revenue requirement to collect for the CRR Services cost category.

Summary of Rates

Comparison of GMC Revenue Requirements by Service Category (\$ in millions)

Charge Code	Service Category or Fee	2025 Budget	2024 Budget	Change
4560	Market Service Charge	\$103.1	\$84.9	\$18.2
4561	Systems Operations	114.6	98.4	16.2
4562	CRR Services Charge	2.9	2.8	0.1
4515	Bid Segment Fees	0.7	0.6	0.1
4512	Inter-SC Trades Fees	3.7	3.4	0.3
4575	SCID Fees	10.3	9.6	0.7
4563	TOR Charges	1.4	0.7	0.7
4516	CRR Auction Bid Fees	1.8	1.5	0.3
Total		\$238.5	\$201.9	\$36.6

Summary of Rates

Comparison of WEIM Administrative Rates (\$ per unit)

Grid Management Charge	WEIM Portion	2025			2024			Change
		GMC Service Charge Rate	% of GMC Service Charge	WEIM Administrative Rates	GMC Service Charge Rate	% of GMC Service Charge	WEIM Administrative Rates	
Market Services	Real Time Market	\$0.1615	64.5%	\$ 0.1042	\$0.1376	64.5%	\$ 0.0888	\$ 0.0154
System Operations	Real Time Dispatch	\$0.2391	42.0%	\$ 0.1004	\$0.2127	42.0%	\$ 0.0893	\$ 0.0111

Reliability Coordinator Service Rates

(\$ per unit)

Reliability Coordinator Service Rate	
RC Funding Requirement (\$ in millions)*	\$ 20.7
Projected Volumes in TWh	646.9
Projected RC Service Rate per MWh	\$ 0.0320

*Funding Requirement adjusted for minimum charges

Rates: GMC and Supplemental Services rate increases driven by higher GMC Revenue Requirement

Charge Code	Summary of Charges, Fees, and Rates	2025 Rate	2024 Rate	Change	Billing Unit
Grid Management Charges					
4560	Market Service Charge	\$0.1615	\$0.1376	\$0.0239	per MWh
4561	Systems Operations	\$0.2391	\$0.2127	\$0.0264	per MWh
4562	CRR Services Charge	\$0.0079	\$0.0069	\$0.0010	per MWh
Miscellaneous Fixed Fees					
701	EIR Forecast Fee	\$0.1000	\$0.1000	\$0.0000	per MWh
4512	Inter-SC Trade Fees	\$1.00	\$1.00	\$0	per # of trades
4515	Bid Segment Fees	\$0.0050	\$0.0050	\$0.0000	per # of bid segments
4516	CRR Auction Bid Fees	\$1.00	\$1.00	\$0.0000	per # of nominations and
4563	TOR Charge	\$0.3250	\$0.3250	\$0.0000	per MWh
4575	SCID Fees (monthly)	\$1,500	\$1,500	\$0	per # of SCID
Supplemental Services Rates					
4564	WEIM Market Service	\$0.1042	\$0.0888	\$0.0154	per MWh
4564	WEIM System Operations	\$0.1004	\$0.0893	\$0.0111	per MWh
5701	RC Service Rate	\$0.0320	\$0.0278	\$0.0042	per MWh



California ISO

Appendix

DESCRIPTION OF DIVISIONS

Description of Divisions: Corporate Services

The office of the **Chief Executive Officer** (CEO) division collaborates with the executive leadership team in developing CAISO's strategic goals and organizational priorities. This includes the Enterprise Program Management Office department. The division also leads in the crafting and articulation of CAISO's mission, vision, and values, and serves as a convener and catalyst in carrying out a host of institutional initiatives. The CEO is the primary contact to the Board of Governors, Western Energy Imbalance Market Governing Body, key elected officials, stakeholders, and the general public, while also representing CAISO with a variety of regional and national energy related organizations.

The **Department of Market Monitoring** (DMM) proactively undertakes sophisticated analysis to enhance market efficiencies and mitigate market power. This effort is especially important as CAISO implements new market features and services to support renewable resource development. The department actively monitors the wholesale energy markets to prevent non-competitive behavior and ensure participants follow the rules. The DMM also reviews market results to confirm the activity produces effective and efficient outcomes. The department continues to review and provide feedback on the effectiveness of the 15-minute/5-minute markets and the Western Energy Imbalance Market (WEIM). The DMM offers timely input on major market design initiatives, as well as products and requirements to ensure sufficient flexible capacity is available to integrate increasing amounts of variable renewable energy. The DMM Oversight Committee and the Board of Governors separately review and approve the DMM budget (which is included in the CEO division).

Description of Divisions: Corporate Services cont.

The **Finance** division is comprised of various financial functions including treasury, credit, accounting, financial planning and procurement. Finance professionals in the division perform typical corporate finance processes such as balance sheet optimization, credit and collateral management, clearing of the market, general accounting, financial reporting, financial planning, budgeting, rate design, and procurement of goods and services for the corporation.

The **Human Resources** division directs programs and people strategies to deliver a unique employee experience that is integrated within our corporate strategic objectives and goals. These efforts include creating and maintaining an intentional culture; attracting, retaining and cultivating technical experts and leaders; implementing robust learning and development opportunities; and creating an environment where diverse perspectives help improve CAISO's performance.

The **General Counsel** division is comprised of four departments, which collectively provide legal and regulatory advice to the Company; promote a culture of compliance with pertinent laws, regulations and corporate policies; and provide auditing and advisory services. In addition, the General Counsel division includes the Corporate Secretary function, which supports the Board of Governors, Board committees, and the Western Energy Imbalance Market Governing Body, and facilitates and coordinates meetings and all corporate governance matters.

Description of Divisions: Corporate Services cont.

The **External Affairs** division is comprised of external facing business groups including state, regional, federal affairs as well as communications and public relations. It interacts with elected state officials, regional entities, regulators, and industry organizations in the West, federal lawmakers, and international delegations to enhance their understanding of grid operations and other services provided by CAISO. The division supports the WEIM governance structure and committees, monitors western state and federal regulations, legislation, initiatives and activities. In doing so, it promotes the benefits of regional coordination throughout the Western Interconnection. Additionally, the communications and public relations department oversees media relations, and uses printed, digital, online, and video materials to communicate to external and internal audiences. This group maintains CAISO's internal and external websites, and develops all communication materials, to promote transparent and accessible information.

The **Stakeholder Engagement and Customer Experience** division is the primary business contact between CAISO, its customers, and industry stakeholders. The division provides customer bid-to-bill support, new participant onboarding, training, and customer readiness support. It also oversees the stakeholder process ensuring robust stakeholder engagement in the development of policy initiatives

Description of Divisions: Operational Services

The over-arching **Chief Operating Officer** (COO) division is a compilation of the office of the Chief Operating Officer (including the Enterprise Support and Campus Operations and Project Management Office departments), Infrastructure and Operations Planning, Power System and Market Technology, System Operations and Market Design and Analysis divisions. The combination of these divisions and departments under the COO's leadership enables greater integration and coordination across these functions to support CAISO's efforts to meet organizational goals.

The **Infrastructure and Operations Planning** division is responsible for long-term and operational grid planning activities to support the growth in renewable resources and maintaining and strengthening grid reliability. These activities include conducting the annual assessment of summer conditions. The division leads the generation interconnection application and contracting process, performs studies for resources seeking to interconnect to the grid, and manages all regulated contracts on behalf of the organization. The division promotes timely and efficient infrastructure development and service-focused maintenance program oversight. It is responsible for complying with NERC standards and WECC regional criteria for the planning coordinator functional entity and the operational planning requirements for the Reliability Coordinator functional entity.

Description of Divisions: Operational Services cont.

The **Power System and Market Technology** division consists of the Power System Technology Development, Power System Technology Operations, and IT Infrastructure, Architecture and Information Security departments. The Power System Technology Development department develops and implements market and reliability software applications to manage and operate the high-voltage electricity grid and wholesale energy market. The Power System Technology Operations department provides technology support for reliability systems, market systems, enterprise model management system, interchange scheduling and tagging systems, and forecasting systems. This group also provides monitoring and first level support to all of the bid-to-bill critical systems. The IT Infrastructure, Architecture and Information Security department protects CAISO's physical and cyber assets, designs new and emerging technology architecture guidelines for IT, engineers new integration technical solutions following architecture roadmap, manages IT infrastructure hardware, software, database, storage, and IT network and communications.

The **System Operations** division prepares for and manages the reliable operation of the high voltage electric system as well as managing after-the-fact settlement. The Operational Readiness department prepares for the reliable operation by coordinating the integration of all new resources and transmission facilities into the network model used by the System Operators as well as providing training to them. The System Operators oversee the day-to-day operations of the grid in compliance with federal and regional reliability standards; prevent or mitigate system emergencies in the day-ahead or real-time operations; and coordinate with adjacent reliability coordinators. After the operating date, the Market Services department produces daily settlement statements; provides data validations; resolves settlements; performs reporting price corrections; and provides compliance analysis.

Description of Divisions: Operational Services cont.

The **Market Design and Analysis** division is composed of three departments: Market Policy Development, Market Analysis and Forecasting, and Market Strategy and Governance. The division is responsible for developing market policy; tracking and reporting on market performance; pricing analysis and validation; validation of market inputs and market enhancements; short-term load, wind, and solar forecasting; evaluating the benefits of the Western EIM; commitment costs and cost adder calculation and adders; and managing relationships with and participating in regulatory matters with the California Public Utilities Commission, the California Energy Commission, and the California Air Resources Board.

CALCULATION OF OPERATING COST RESERVE ADJUSTMENT

Calculation of Operating Cost Reserve Adjustment

(\$ in thousands)

There are four factors that affect the calculation of the reserve adjustment:

- Prior year's 25% debt service reserve
- 2023 true-up
- 2024 estimates
- Change in the 15% operating cost reserve

Summary of Operating Cost Reserve Adjustment	If no changes to last years plan (a)	Budget to Actual (b)	Difference
Prior year's 25% debt service reserve collected	\$ 2,937	\$ 2,937	\$ -
2023 true-up	-	8,671	8,671
2024 estimates	-	-	-
Change in the 15% operating cost reserve	(3,044)	(3,044)	-
2025 Reserve credit / (debit) from 2023 operations	\$ (107)	\$ 8,564	\$ 8,671
(a) Plan assumes prior year expenses and revenues were equal to budgeted amounts.			
(b) Revised reflects the true -up of prior year activities.			

Calculation of Operating Cost Reserve Adjustment

(\$ in thousands)

2023 True Up			
Description	Budget	Actual	Difference
<u>Revenue</u>			
GMC revenue	\$ 199,760	\$ 197,236	\$ (2,524)
Other income	57,571	65,707	8,135
Realized gain / (loss) on investments	-	(154)	(154)
Total revenue	257,331	262,789	5,457
<u>Expenses</u>			
Expenses	(238,394)	(236,013)	2,382
Debt service: principal	(8,770)	(8,815)	(45)
Debt service: interest	(2,983)	(2,986)	(3)
Debt service: reserve	(3,381)	(2,938)	443
Cash funded capital	(21,000)	(21,000)	-
Capital funded by WEIM fees adjustment	-	217	217
Self-funded healthcare adjustment	-	220	220
Total expenses	(274,528)	(271,315)	3,214
<u>Impact to Operating Reserve</u>			
Net change in prior year true-up	\$ (17,197)	\$ (8,526)	\$ 8,671

Calculation of Operating Cost Reserve Adjustment

(\$ in thousands)

2024 Estimates			
Description	Budget	Estimate	Difference
<u>Revenue</u>			
GMC revenue	\$ 201,813	\$ 201,813	\$ -
Other income	63,575	63,575	-
Total revenue	265,388	265,388	-
<u>Expenses</u>			
Operations and maintenance	(255,670)	(255,670)	-
Debt service: principal	(8,770)	(8,770)	-
Debt service: interest	(2,983)	(2,983)	-
Debt service: reserve	(2,938)	(2,938)	-
Cash funded capital	(8,000)	(8,000)	-
Total expenses	(278,361)	(278,361)	-
<u>Impact to Operating Reserve</u>			
Net change current year estimates	\$ (12,973)	\$ (12,973)	\$ -

Change in 15% Operating Cost Reserve			
Description	2024 Budget	2025 Budget	Change
Change in operations and maintenance budget from prior year	\$ 255,670	\$ 275,967	\$ 20,297
Change in the 15% operating cost reserve	\$ 38,351	\$ 41,395	\$ 3,044

ACTUAL AND ESTIMATED VOLUMES



Actual and Estimated Volumes

Note: Actual data may vary between reporting cycles due to recalculation of settlement statements.

Charge Type:	Market Services	System Operations	CRR Services	Inter-SC Trades	Bid Segment Fees	CRR Auction Bid Fees	TOR Fees	SCID Fees
Charge Code:	4560	4561	4562	4512	4515	4516	4563	4575
Unit:	MWh & MW	MWh	MWh	# of trades	# of bid segments	# of nominations & bids	Minimum of TOR supply & demand	# of SCID's

2020 Actual Units								
Jan-20	40,933,378	34,402,330	34,139,627	203,592	7,127,726	57,321	262,412	347
Feb-20	38,685,078	31,809,566	33,113,372	195,080	6,681,572	59,891	235,599	347
Mar-20	40,113,391	32,594,145	37,559,372	212,542	6,949,844	66,811	304,051	345
Apr-20	37,869,098	30,524,272	36,615,491	223,346	7,079,984	71,004	344,958	351
May-20	42,271,523	35,119,426	37,206,301	230,566	7,597,150	77,359	429,481	357
Jun-20	45,361,152	37,715,632	41,018,642	231,626	7,850,368	82,039	462,072	359
Jul-20	51,759,066	43,529,167	40,238,159	247,282	8,171,918	77,179	447,461	357
Aug-20	55,638,493	47,332,623	39,573,606	247,266	7,316,208	75,999	402,445	366
Sep-20	50,029,596	41,228,774	38,026,171	231,544	6,780,340	77,539	373,665	370
Oct-20	45,384,515	37,674,534	35,299,599	222,458	6,790,348	94,395	326,854	371
Nov-20	39,607,521	32,801,091	34,666,938	205,740	6,129,128	130,494	294,657	374
Dec-20	42,442,963	34,901,644	36,999,923	216,904	6,469,474	268,252	300,036	372
Total	530,095,772	439,633,204	444,457,201	2,667,946	84,944,060	1,138,283	4,183,691	4,316



Actual and Estimated Volumes

Note: Actual data may vary between reporting cycles due to recalculation of settlement statements.

Charge Type:	Market Services	System Operations	CRR Services	Inter-SC Trades	Bid Segment Fees	CRR Auction Bid Fees	TOR Fees	SCID Fees
Charge Code:	4560	4561	4562	4512	4515	4516	4563	4575
Unit:	MWh & MW	MWh	MWh	# of trades	# of bid segments	# of nominations & bids	Minimum of TOR supply & demand	# of SCID's

2021 Actual Units								
Jan-21	40,683,140	33,325,011	32,493,844	195,948	6,337,954	49,543	225,650	366
Feb-21	37,694,595	30,261,621	31,255,696	176,966	5,726,748	53,265	133,083	373
Mar-21	41,417,368	33,010,277	34,972,938	205,174	6,451,154	57,982	251,268	379
Apr-21	40,389,925	32,351,286	30,368,998	210,594	6,767,498	62,480	274,007	385
May-21	44,311,206	35,710,260	33,192,788	222,608	7,129,804	64,850	293,095	396
Jun-21	50,299,930	40,988,091	35,475,533	231,136	7,359,174	79,020	314,030	403
Jul-21	56,904,114	47,062,081	40,326,188	256,576	8,270,814	83,260	329,995	407
Aug-21	55,388,398	45,328,343	38,788,823	255,252	8,379,034	85,595	301,635	407
Sep-21	49,049,499	40,433,828	37,536,323	254,512	8,243,900	91,439	271,228	415
Oct-21	43,831,572	34,836,020	35,010,269	228,916	7,929,808	102,693	200,109	422
Nov-21	41,210,104	33,274,632	35,970,433	212,172	7,643,672	168,022	191,019	418
Dec-21	45,835,592	36,674,318	35,394,804	229,328	8,235,210	288,419	178,589	439
Total	547,015,442	443,255,767	420,786,635	2,679,182	88,474,770	1,186,568	2,963,709	4,810



Actual and Estimated Volumes

Note: Actual data may vary between reporting cycles due to recalculation of settlement statements.

Charge Type:	Market Services	System Operations	CRR Services	Inter-SC Trades	Bid Segment Fees	CRR Auction Bid Fees	TOR Fees	SCID Fees
Charge Code:	4560	4561	4562	4512	4515	4516	4563	4575
Unit:	MWh & MW	MWh	MWh	# of trades	# of bid segments	# of nominations & bids	Minimum of TOR supply & demand	# of SCID's

2022 Actual Units								
Jan-22	42,907,645	34,453,159	32,292,393	233,084	8,123,004	68,071	249,195	436
Feb-22	39,057,083	30,730,403	30,098,944	211,518	7,599,274	67,623	188,193	433
Mar-22	44,220,290	33,250,051	30,522,651	231,782	8,315,406	75,529	322,597	441
Apr-22	43,310,139	32,561,387	32,152,956	231,940	8,069,870	91,585	321,152	449
May-22	46,489,652	35,878,300	33,003,960	247,484	8,960,048	106,921	354,394	452
Jun-22	53,117,363	42,035,662	34,365,691	250,564	9,188,122	111,267	376,200	462
Jul-22	57,033,223	46,319,472	37,648,453	266,240	9,813,560	109,016	399,999	470
Aug-22	59,596,368	48,692,472	35,996,793	265,844	10,086,086	109,168	368,525	475
Sep-22	55,870,044	45,071,677	34,423,704	249,636	9,034,558	117,680	272,933	480
Oct-22	47,453,560	37,063,147	31,017,962	253,142	9,644,858	126,753	241,575	475
Nov-22	43,573,086	28,552,131	33,844,007	235,746	8,730,876	196,303	160,482	475
Dec-22	47,595,210	31,755,247	31,541,015	246,532	8,609,694	337,744	102,990	474
Total	580,223,664	446,363,109	396,908,527	2,923,512	106,175,356	1,517,660	3,358,235	5,522



Actual and Estimated Volumes

Note: Actual data may vary between reporting cycles due to recalculation of settlement statements.

Charge Type:	Market Services	System Operations	CRR Services	Inter-SC Trades	Bid Segment Fees	CRR Auction Bid Fees	TOR Fees	SCID Fees
Charge Code:	4560	4561	4562	4512	4515	4516	4563	4575
Unit:	MWh & MW	MWh	MWh	# of trades	# of bid segments	# of nominations & bids	Minimum of TOR supply & demand	# of SCID's

2023 Actual Units								
Jan-23	46,719,656	36,143,379	30,260,751	235,120	9,015,348	67,147	82,221	479
Feb-23	42,588,125	32,094,344	29,359,827	224,402	8,418,886	63,338	40,784	487
Mar-23	48,293,961	35,383,749	31,869,411	257,116	9,505,652	78,760	99,225	487
Apr-23	47,966,223	34,826,939	32,161,618	251,678	9,361,818	84,930	117,326	510
May-23	47,143,150	35,791,574	33,641,482	256,382	9,776,260	85,333	191,861	512
Jun-23	47,781,777	36,891,823	34,251,762	257,940	9,989,580	90,722	280,107	515
Jul-23	62,209,579	50,343,899	38,223,638	289,472	10,597,240	104,716	288,750	523
Aug-23	61,759,195	48,863,072	37,894,472	290,826	10,444,104	102,969	258,172	527
Sep-23	51,662,535	40,634,244	35,258,706	279,304	9,832,108	105,500	165,913	521
Oct-23	50,812,358	38,481,582	31,098,376	285,092	9,752,916	139,292	164,960	531
Nov-23	45,478,649	35,258,052	31,050,231	274,034	8,687,902	228,099	208,742	537
Dec-23	46,686,706	36,204,302	32,084,194	290,142	9,094,468	372,804	205,516	528
Total	599,101,914	460,916,959	397,154,468	3,191,508	114,476,282	1,523,610	2,103,576	6,157



Actual and Estimated Volumes

Note: Actual data may vary between reporting cycles due to recalculation of settlement statements.

Charge Type:	Market Services	System Operations	CRR Services	Inter-SC Trades	Bid Segment Fees	CRR Auction Bid Fees	TOR Fees	SCID Fees
Charge Code:	4560	4561	4562	4512	4515	4516	4563	4575
Unit:	MWh & MW	MWh	MWh	# of trades	# of bid segments	# of nominations & bids	Minimum of TOR supply & demand	# of SCID's

2024 Actual units from January thru September; estimated units for October thru December.								
Jan-24	49,087,110	37,278,679	31,317,157	275,728	9,333,702	98,915	227,229	531
Feb-24	43,835,535	32,701,607	30,409,897	259,804	9,012,896	94,529	254,739	529
Mar-24	46,380,887	33,606,561	31,336,294	279,014	9,679,538	112,471	241,510	536
Apr-24	45,541,595	32,625,608	32,627,396	254,026	9,657,768	105,131	273,090	542
May-24	50,431,537	36,491,337	31,474,391	277,802	10,880,062	123,013	373,947	546
Jun-24	54,421,928	42,165,961	33,000,136	281,412	11,209,308	130,150	521,976	543
Jul-24	65,839,015	52,018,060	34,621,016	313,314	11,488,772	129,335	515,891	551
Aug-24	62,097,197	48,590,941	32,680,059	317,958	11,222,476	118,840	480,574	545
Sep-24	56,737,473	43,773,175	31,225,380	298,180	10,772,092	132,058	442,049	553
Oct-24	53,015,788	37,968,950	29,880,633	311,788	10,451,919	172,016	165,806	552
Nov-24	47,894,164	34,302,546	31,982,759	300,265	9,327,440	253,376	217,249	552
Dec-24	51,838,816	37,603,497	32,733,475	298,691	11,104,456	453,726	117,237	552
Total	627,121,046	469,126,922	383,288,593	3,467,982	124,140,429	1,923,561	3,831,297	6,533



Actual and Estimated Volumes

Note: Actual data may vary between reporting cycles due to recalculation of settlement statements.

Charge Type:	Market Services	System Operations	CRR Services	Inter-SC Trades	Bid Segment Fees	CRR Auction Bid Fees	TOR Fees	SCID Fees
Charge Code:	4560	4561	4562	4512	4515	4516	4563	4575
Unit:	MWh & MW	MWh	MWh	# of trades	# of bid segments	# of nominations & bids	Minimum of TOR supply & demand	# of SCID's

2025 Estimated Units								
Jan-25	49,458,990	37,770,758	30,196,002	299,634	10,493,881	98,915	227,229	563
Feb-25	45,093,436	33,133,268	29,321,223	282,329	10,133,199	94,529	254,739	563
Mar-25	51,124,716	34,050,167	30,214,455	303,205	10,882,705	112,471	241,510	563
Apr-25	50,773,006	33,056,266	31,459,335	276,050	10,858,229	105,131	273,090	568
May-25	49,895,637	36,973,022	30,347,608	301,887	12,232,454	123,013	373,947	568
Jun-25	50,571,814	42,690,287	31,818,731	305,810	12,602,625	130,150	521,976	568
Jul-25	65,842,033	52,636,016	33,381,584	340,478	12,916,826	129,335	515,889	573
Aug-25	65,365,306	49,226,467	31,510,113	345,525	12,617,430	118,840	480,574	573
Sep-25	54,715,995	44,350,981	30,107,511	324,032	12,111,063	132,058	442,049	573
Oct-25	53,959,880	40,823,505	25,865,445	321,389	12,246,008	146,316	311,053	578
Nov-25	48,747,051	35,484,737	27,895,829	312,075	11,420,227	215,533	226,245	578
Dec-25	52,761,948	39,244,230	30,994,555	321,784	12,633,560	441,403	284,476	578
Total	638,309,810	479,439,704	363,112,391	3,734,198	141,148,206	1,847,694	4,152,777	6,846
Change from 2020 Actual	20.4%	9.1%	-18.3%	40.0%	66.2%	62.3%	-0.7%	58.6%
Change from 2021 Actual	16.7%	8.2%	-13.7%	39.4%	59.5%	55.7%	40.1%	42.3%
Change from 2022 Actual	10.0%	7.4%	-8.5%	27.7%	32.9%	21.7%	23.7%	24.0%
Change from 2023 Actual	6.5%	4.0%	-8.6%	17.0%	23.3%	21.3%	97.4%	11.2%
Change from 2024 Actual + Estimate	1.8%	2.2%	-5.3%	7.7%	13.7%	-3.9%	8.4%	4.8%

[The latest GMC rates as well as a history of the rates is available on the Grid Management Charge page on the CAISO public site.](#)