



California ISO
Your Link to Power
10 Year Anniversary 1998-2008

2009 Budget and GMC Rates

FINAL 12/1/2008



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I. INTRODUCTION

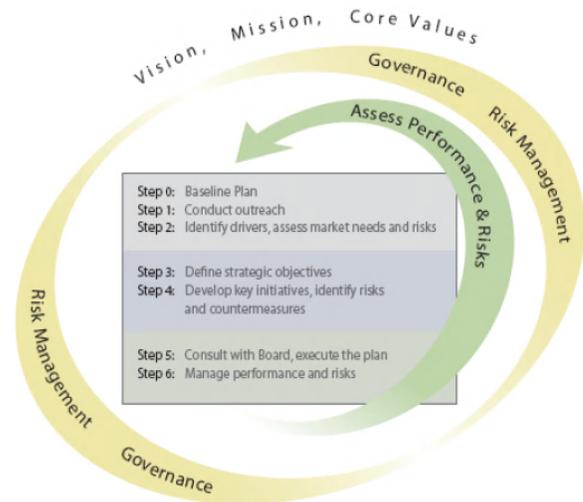
This document presents and explains the financial basis for the California Independent System Operator's (the ISO) operations and services for 2009. In the following sections, we present:

- The alignment of the strategic planning and financial planning process
- The corporate guidance and assumptions for preparing the proposed budget
- An overview of the structure of the ISO budget
- The 2009 Budget in summary form
- Departmental and Divisional budget information
- An overview of the unbundled Grid Management Charge ("GMC") rates for 2009 both for the pre-MRTU and MRTU rate structures
- An overview of the 2009-2010 Capital/Project Budget

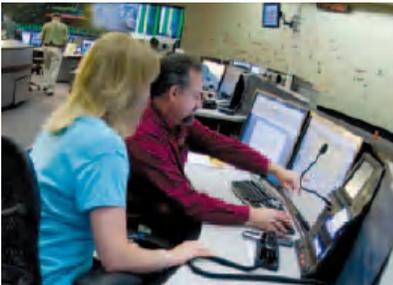


II. THE ISO'S PLANNING PROCESS AND FOUNDATIONAL ELEMENTS FOR THE BUDGET: VISION, MISSION AND STRATEGIC OBJECTIVES FOR 2009

The ISO's proposed 2009 budget provides resources necessary to achieve the ISO short-term corporate goals and execute its Five-Year Strategic Plan. The Five-Year Strategic Plan supports the ISO's overall vision and mission. The ISO developed the Five-Year Strategic Plan using the six-step process illustrated to the right, collecting input from market participants, policy makers and other stakeholders, as well as identifying key drivers and risks associated with the organization's strategic objectives. The execution of the plan is supported by the annual budget, departmental and individual performance plans and goals.



The California ISO Strategic Planning Process



OUR VISION

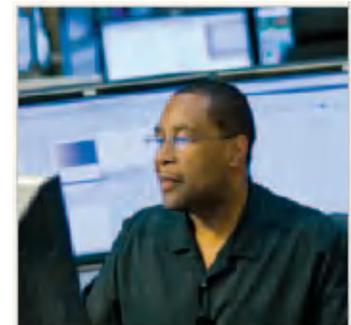
California ISO strives to be a world-class electric transmission organization built around a globally-recognized and inspired team providing cost-effective and reliable service, well-balanced and transparent energy market mechanisms and high-quality information for the benefit of our customers.

OUR MISSION

For the benefit of our customers, we:

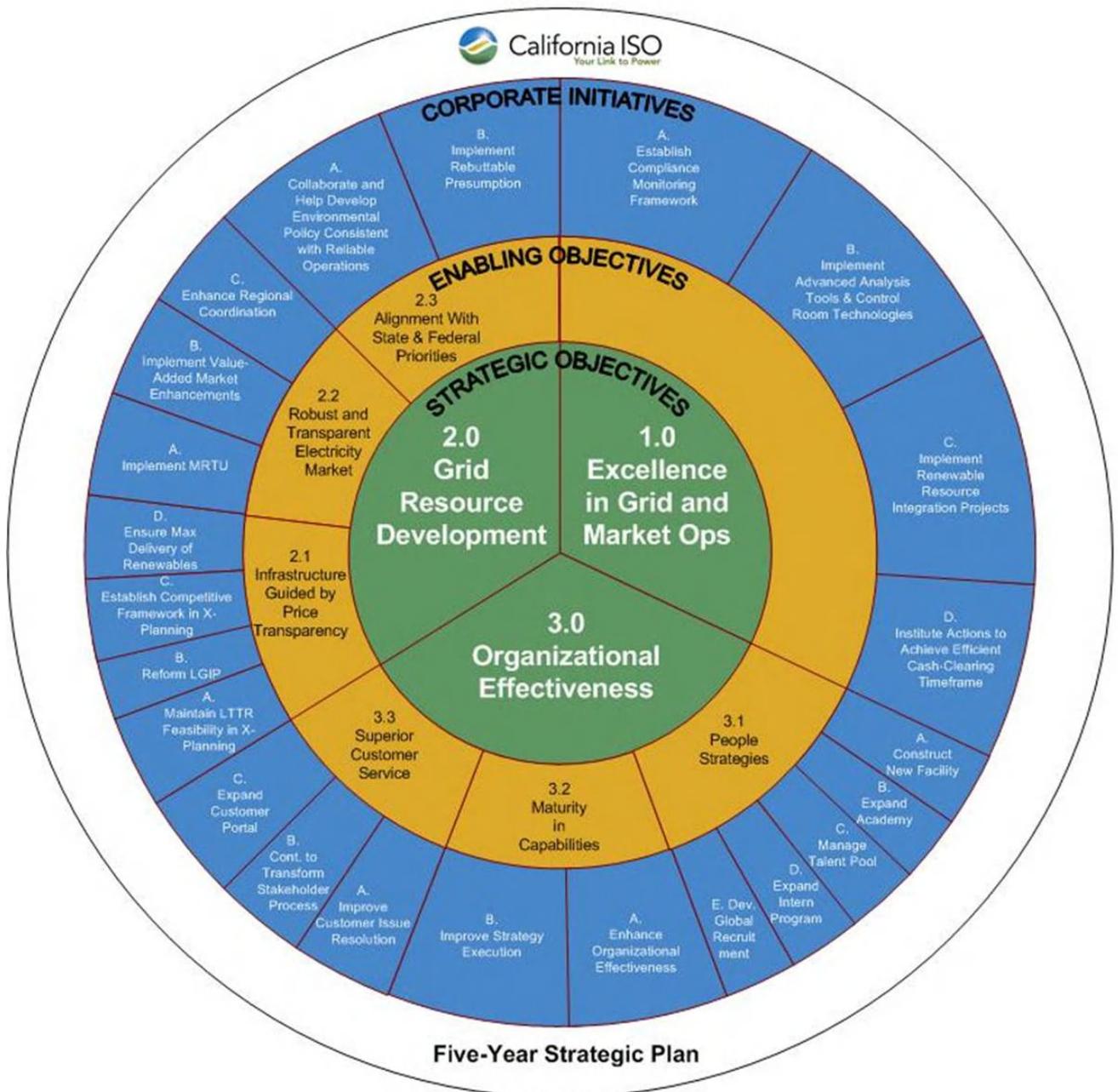
- Operate the grid reliably and efficiently
- Provide fair and open transmission access
- Promote environmental stewardship **New**
- Facilitate effective markets and promote infrastructure development

All through the provision of timely and accurate information.



Strategic Objectives

The following is a graphic representation of initiatives contained in the Five-Year Strategic Plan. In Section VII, the Divisional budget overview describes the initiatives that each Division is responsible for in 2009.



III. BUDGET GUIDANCE AND PROCESS

Each year, the organization is provided with guidance on the expected budget outcome and the mechanics of how the budgets will be prepared. Guidance provided for the development of the 2009 Revenue Requirement included:

- Each ISO department was directed to develop a base O&M budget consistent with the strategic plan for 2009, with funding generally not to exceed the 2008 level.
- Funding for additional key priorities in 2009 could be allocated based on available funding.
- Companywide, the O&M budget should not exceed \$157 million, resulting in a Revenue Requirement of \$197 million and a bundled GMC of \$0.77¹/MWh.

Departments submitted base budgets consistent with the guidelines above. In late July/early August, ISO Management met to review and refine the proposed budgets. Additional funding was targeted towards certain high priority Divisional needs, including the priorities described in Section IV. The “management recommended budget”, achieves the above goals and funds the ISO’s operations and initiatives as set forth in the 2008-2012 Strategic Plan.

The management recommended budget was presented to the Board in early September for feedback, and posted for stakeholder review in mid-September. The budget was discussed with stakeholders in a budget workshop on September 26, and notes of that discussion and subsequent questions received from stakeholders have been posted on the ISO website.

¹ As discussed subsequently, because of further decreases in billing determinant volumes noted between September and December 2008, the bundled GMC for 2009 exceeds 77 cents.

IV. BUDGET THEMES AND OVERALL BUDGET RESULTS

2009 Budget Themes

The 2009 budget supports the year's commitments in the context of the Five-Year Strategic Plan and annual corporate goals, including:

- Delivery of, transition to, and successful operation of MRTU.
- Execute initiatives defined in 5-Year Strategic Plan (2008-2012), including:
 - Implement value-added market enhancements including Convergence Bidding, Scarcity Pricing Software, Wholesale Demand Response, Maintain and Enhance Market Initiatives Roadmap, as well as improving market monitoring capabilities associated with design enhancements
 - Support development and implementation of state environmental regulatory policies, including: implement renewable resource integration projects to ensure maximum delivery of renewable energy and support the State policy of green house gas reductions
 - Establish a collaborative framework for transmission planning
 - Establish a compliance monitoring framework
 - Leverage and integrate advanced analysis tools and new control room technologies
 - Institute actions to achieve an efficient cash clearing timeframe
 - Construct new facility and manage the talent pool
 - Customer focus: Improving customer issue resolution process, continuing to transform stakeholder process, and expanding the customer portal
- Continue focus on cost control - 2009 Bundled GMC Rate is consistent with the target established in 2005 (maintain bundled GMC in the mid-to-high 70 cent per MWh range), and Revenue Requirement is below the \$195 million threshold for a new rate case.
 - Fund new priorities by redirecting resources and achieving efficiencies. See Section VI. for additional detail



Taking on New Scope

The ISO continues to expand the scope services necessary to support important initiatives related state, district-wide, and local environmental policies; FERC Order 890; and new

NERC/WECC compliance requirements. The environmental efforts include addressing issues related to the reliable and efficient integration of renewable energy, implementation California's landmark greenhouse gas regulatory program, consideration of new restrictions on water use in the electric generation sector, local initiatives to close aging facilities, community choice aggregation, and air quality district initiatives related to power plant air emissions. Across our operation, we are providing:

Support For Renewable Resource Integration Consistent With Reliable Operations

In 2007 - 2008, the ISO achieved several important milestones to advance California renewable resource objectives. In 2007, the ISO published a report entitled "Integration of Renewable Resources," which documented electrical system needs including additional ramping, load-following and regulation services needed to achieve its 20% renewable portfolio standard (RPS). In 2008, the ISO published a study entitled "Report on Preliminary Renewable Transmission Plans" documenting that the Tehachapi and Sunrise transmission projects provide sufficient deliveries from renewable resource areas to meet the 20% RPS goal and describing preliminary studies of the transmission that might be needed to achieve a 33% RPS.

The specific effort related to renewable resource development and integration has been and continues to be extensive. In addition to the important studies identified above, related work in 2007-2008 includes the following:

- Approval of the Tehachapi Transmission Project to enable deliveries from California's largest wind resource area.
- Reform of the Large Generator Interconnection Process to facilitate interconnections and review of the most viable projects.
- Extensive communication regarding renewable integration studies and the relationship to other environmental policy objectives, such as California's greenhouse gas regulatory program and the proposed ban on once-through cooling.
- Expansion of the Participating Intermittent Resources Program to encompass solar resources.
- Enhancement of intermittent resource forecasting in the day-ahead and sharing forecasting tools with neighboring balancing areas.
- Improved coordination between balancing areas in order to share mitigation of intermittency challenges.
- Development of ramping tools to enable operators to economically integrate intermittent resources, consistent with reliable operations.
- Development of graphic displays to enable operators to see the real time performance of intermittent resources.
- Additional analysis of the existing fleet to understand how to fully utilize their available integration services, including ramping, load-following and regulation.
- Technical studies to evaluate the ability of new technologies, such as batteries and enhanced transmission capability to facilitate the integration of renewable resources.
- Analysis of potential over-generation and development of needed mitigation measures as necessary to integrate intermittent resources.



- Identification and evaluation of market mechanisms to facilitate renewable integration

Support for Other Environmental Policies

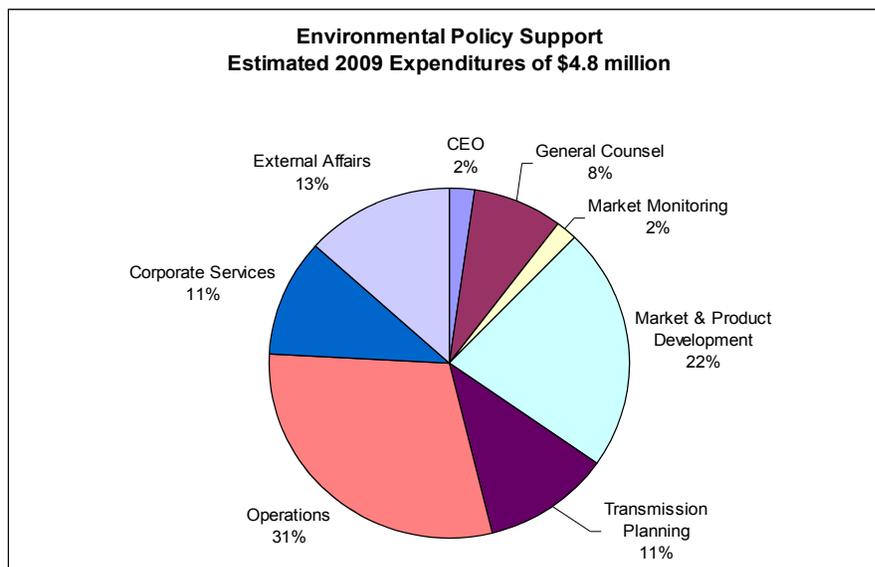
As state and federal policymakers strive for global sustainability, California is advancing environmental and climate change goals through a pioneering greenhouse gas regulatory program, a proposal to increase renewable procurement requirements to 33% by 2020, including development of related transmission plans, and a proposed ban on once-through cooling in coastal power plants. The state also has a long-standing policy describing its preferred electric resource loading order beginning with energy efficiency followed by demand response, renewable resources and combined heat and power. In addition local governments and regional California regulatory agencies are considering policies and programs that require engagement with regard to their impact system reliability and integration into ISO operations.

The specific 2007 – 2008 efforts related to these policy initiatives are extensive and include the following:

- Successful engagement on greenhouse gas regulatory policies to support electricity sector emission sources as the point of regulation.
- Ongoing involvement with energy regulatory agencies and the California Air Resources Board on issues related to coordination of cap and trade rules and the ISO markets.
- Conducting planning studies within the ISO's Order 890 transmission planning process and in the state's Renewable Energy Transmission Initiative related to achieving a 33% RPS.
- Development of the DR365 Demand Response Lab to demonstrate the ISO's visions of future functionality and work on a 2008 pilot project to demonstrate the functionality that exists today.
- Consultation with existing combined heat and power project owners to identify tariff changes to facilitate their participation in ISO markets.
- Performing studies to determine the feasibility of achieving a ban on once-through cooling that is consistent with meeting system reliability requirements and renewable integration needs.
- Conducting studies and engaging with the City and County of San Francisco on issues related to the possible retirement of Potrero Units 3 – 6.
- Engaging with the City of Chula Vista and the local regional water quality control board on issues related to operations and possible closure of the South Bay power plant.
- Participation in the South Coast Air Quality Management District's deliberations related to the availability of air emission credits for electric generation and involvement in subsequent litigation.
- Consultation with communities considering community choice aggregation to explain what is necessary to obtain the resources they need to meet local load requirements.

The ISO’s commitment to supporting the achievement of these priorities is specified in the ISO’s “Five Year Strategic Plan” which includes the following goal: “Alignment with state and federal policies, including environmental goals, climate change regulation and California’s preferred resource loading order, by understanding the implications of these policies on the electric system and markets” (Sub-Objective 2.3, p. 20). This objective encompasses initiatives to: “Collaborate and help develop environmental policy consistent with reliable system operations” by (1) integrating state and federal environmental policies with ISO wholesale energy markets and (2) identifying obstacles to market participation by combined heat and power.

The 2009 budget includes expenditures in support of state environmental policy goals of at least \$4.8 million, as reflected in the chart below describing the effort in terms expenditures for the entire corporation. The impact on individual departments varies widely.



Expanded Compliance Initiatives

Pursuant to the Energy Policy Act of 2005, the Federal Energy Regulatory Commission directed the North American Electric Reliability Corporation (“NERC”) to develop wide ranging standards for the electric industry. The subsequent requirements, which became mandatory and enforceable with substantial penalties in 2007, require significant changes to the ISO’s process documentation throughout the company, enhancements to training, development of new policies and procedures, and additional security measures. To manage the development and ongoing maintenance of the program, the ISO established a compliance department under the General Counsel/Chief Compliance Officer. That group, with significant support from other areas of the company, is managing the effort. The direct budget for that group increases from under \$0.5 million in 2008 to \$1.3 million for 2009. However, even this increase does not reflect the true level



of resources companywide dedicated to the compliance effort, which includes additional legal counsel, human resources staff, internal auditors, engineers and operators in the Operations and Market and Infrastructure Development Divisions, and internal control and IT security specialists in Corporate Services. Through the efforts of the General Counsel/Chief Compliance Officer, compliance is a high priority for the entire company, addressing both the mandatory reliability standards and all ISO policies and procedures. The efforts are extensive and will require contracting and staff resources in 2009 and beyond.

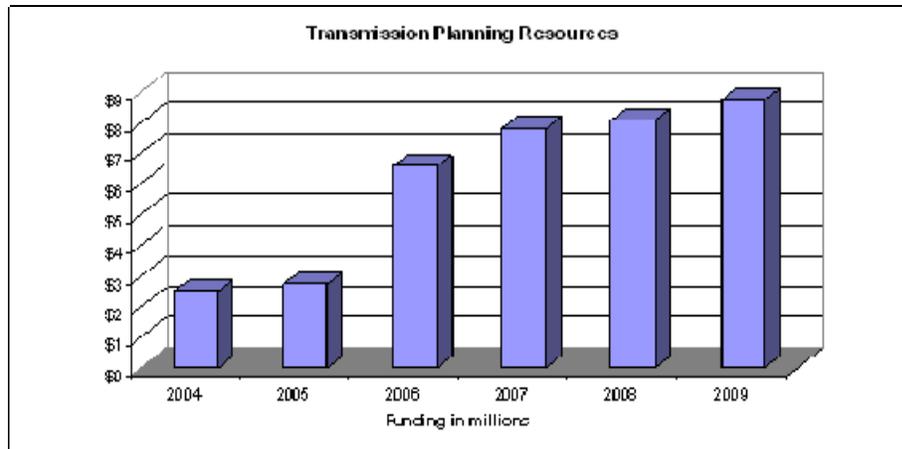
Compliance with FERC Order 890 and an Enhanced Transmission Planning Process

The Federal Energy Regulatory Commission's (FERC) Final Rule on *Preventing Undue Discrimination and Preference in Transmission Service, Order No. 890* ("Order No. 890") requires all transmission providers, including independent system operators, to implement and document a coordinated, open, and transparent transmission planning process that complies with the planning principles and other requirements articulated in Order No. 890. While the ISO's planning process was already principally compliant with FERC's planning principles, in December 2007 the ISO made a compliance filing that clarified the ISO's obligation and authority to plan for, and promote, the enhancement and expansion of transmission capability within its footprint.

Many transmission planning development tasks associated with MRTU, FERC 890, and Resource Adequacy have or will be brought to a close during 2008; however, implementation of work responsibilities will become a priority in 2009, including validation of CRRs, congestion analysis, validation of day ahead and real-time market simulation tools, Order 890 congestion analysis, Resource Adequacy matters (including location constrained resources, or "LCR", zonal and import allocation, planning reserve margin, rebuttable presumption). Although FERC has only recently accepted CAISO's FERC Order 890 compliance filing from December 2007, the full implementation of the compliance filing began immediately upon its submission to FERC. These include: the ISO's proactive stakeholder contacts, working with Renewable Energy Transmission Initiative (RETI) to integrate their effort into the ISO planning process, the initiation of the planning effort for the Central California Clean Energy Transmission Project (C3ETP) under the new process.

The analysis for and management of these and other efforts has increased the need for coordination with and involvement of staff in Market and Product Development (M&PD), Legal Services, and External Affairs. This has resulted in an increase in ISO staff's involvement with stakeholders and state regulatory and policy representatives.

The budget for the transmission planning function has increased in recent years to reflect this expanded scope of work:



Such figures exclude other related work such as network applications, support of economists in policy development, attorneys working on transmission planning issues, and the vice-president costs for oversight of this function. The proactive approach for grid planning does require resources from across the company, this has been particularly true on issues such as Generation Interconnection Process Reform, a current focus, and in the development of a third category of transmission to facilitate interconnection of remote renewable resources.

The ISO’s proactive transmission planning function goes behind the technical analysis into facilitating the building of projects. Very substantial resources have been dedicated to the Sunrise project in the San Diego Gas and Electric Service territory, and the Tehachapi project is anticipated to require a similar effort. The ISO’s support costs for facilitating the Sunrise project are estimated to have exceeded \$2 million, between consultants, legal, and full time staff, and such costs were absorbed within the overall budget. The additional resources dedicated to Transmission Planning shown in the chart above are still stretched given this substantial workload increase in just the past two years. The Sunrise Project effort, among others, has required ISO staff to provide exemplary performance across a range of tasks, significantly drawing upon staff talents and knowledge. Internal training and management of priorities has provided an important platform for success in addressing future challenges, however the hurdles Staff will face will increase exponentially as the ISO becomes more engaged in initiatives created by the enhanced planning process., NERC/WECC compliance requirements, Order 890 and other regulatory/policy agendas. The ISO’s Regional Transmission department is currently responsible for 40% the efforts on current “ISO Master Stakeholder Engagement Plan”, and on average conducts two stakeholder meetings each month in Folsom and other locations, which are anticipated to increase.

This new scope has been absorbed with minimal upward pressure to budgets through careful ongoing management of costs. Since the re-structure in 2005 that reduced costs significantly, we have managed to absorb the additional cost increases through efficiencies. In particular, we have:



Optimized Resource Utilization

- Redeployment of resources assigned to MRTU upon project completion In-sourced external legal work
- Rationalized control room staffing
- Promoted health management and medical cost containment
- Achieved overtime reductions through workload leveling
- Achieved effective organizational structure: consolidate VP positions
- Reviewed IT service sourcing strategy

Focused on Procurement and sourcing strategies

- Equipment lease cost reduction (planned buyout of telephone equipment 6/2009)
- Achieved cost savings in network management
- Achieved savings through Internet vendor change

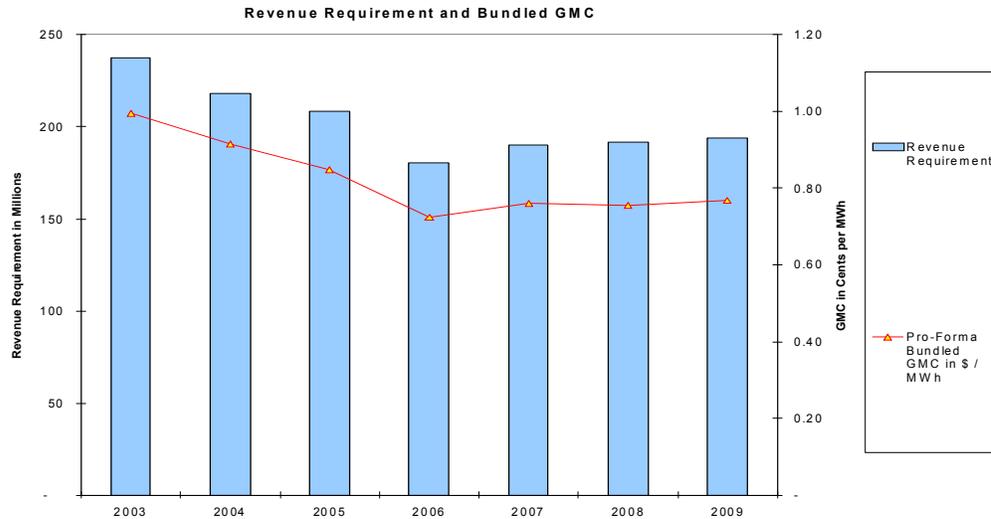
Undertaken Other Changes

- Eliminated Reliability Coordination function that results in reduction in O&M budget, and corresponding cost recovery (no net change in Revenue Requirement)
- Commencement of construction on Iron Point land results in effectiveness of property tax exemption
- Aligned travel costs with recent trend/forecast
- Reduced costs of IT hardware/software maintenance contracts by (\$2.2 million--non renewal of certain agreements and cost savings from signing other longer-term agreements)

2009 Budget Results

The 2009 budget provides for a Revenue Requirement of \$193 million, representing a cost increases of less than 1% for the second year in a row (based on a revenue requirement of \$191.6 million in 2008, and \$189.9 million in 2007). As noted above, the increasing service levels achieved by the Company are being provided through effective management and redeployment of resources towards the key corporate initiatives. With respect to the bundled/composite GMC, the 2009 GMC of \$0.776 per MWh compares with \$0.755 in 2008, an increase of 2.1 cents due to decreases in forecast metered load. Had the load estimate contemplated for 2009 one year ago (255 terawatt hours) been maintained, the 2009 bundled/composite GMC would have been \$0.757 per MWh. The 2009 metered load estimate is now 248.7 terawatt hours, and has fallen from the 252.4 terawatt hours assumed in the initial September budget posting.

The level of the Revenue Requirement has been reduced substantially since 2003 and is central to the ISO's commitment to maintaining a GMC in the mid to high seventy cent per MWh range for the next several years consistent with the 5-Year Strategic Plan. This commitment to cost management is illustrated in the following chart:



The Revenue Requirement is recovered through the unbundled grid management charge ("GMC"). Each unbundled service offering has corresponding rates paid by users of that service. These rates are calculated by determining the costs associated with each of these services, and then dividing those figures by the forecasted billing determinant volume for each service. The result is a rate per unit of use. Section IX of this document outlines the determination of GMC rates. The GMC rate structure will be changed during 2009 upon implementation of MRTU. During 2009 prior to MRTU startup, the existing rate structure will be in effect².

This budget package provides an overview of and detail about the ISO's cost of service. The ISO cost of service (or "Revenue Requirement") for 2009 consists of:

- Operating & Maintenance (O&M) budget
- Debt service costs (on 2008 bonds)
- Project/Capital Funding
- Other revenues and expense recoveries
- Revenue Credit from Operating & Capital Reserves Account

The O&M budget is the largest of these components and is the primary focus of this report. The O&M budget consists of the costs necessary for the ongoing operation of the ISO. The O&M budget can be viewed from several perspectives including:

- By Division, group or department (cost center) (such as "VP Operations", or "Accounting")
- By Expense Type (such as "Salaries & Benefits", or "Third Party Contracts")
- By Initiative or Business Process. The ISO is building an accounting and budgeting capability to view costs across departments for work on initiatives in the Strategic Plan and ongoing business processes that span multiple departments. This capability is anticipated to be deployed during 2009.

² The ISO filed to extent the current pre-MRTU GMC rate structure into 2009 during October 2008.
Finance/PRL 12/1/2008

Debt service costs are the principal and interest payments related to repayment of the ISO's 2008 bonds. During June 2008, the ISO issued fixed rate bonds to obtain funding for 2008-2010 capital expenditures, and to retire existing variable rate demand bonds. During 2009, the ISO intends to issue bonds for the new facility. There will be no impact on the 2009 Revenue Requirement of this bond offering, as 2009 interest will be funded from bond proceeds during the building development stage. The Revenue Requirement does not contain direct funding for capital and other projects in 2009, in contrast with the 2008 budget which contained \$8.5 million for this purpose. Such funds in 2008 were intended to fund project initialization costs that cannot be funded with bond proceeds (non-capitalizable amounts). In 2009, such costs will be funded from savings in the O&M budget.

Other revenue and expense recoveries are various offsets to the Revenue Requirement from other revenue sources (interest, SC application fees, PIRP fees, and training), or reimbursement the ISO receives for certain costs apart from the Grid Management Charge. These include reimbursement to the ISO the COI Path Operator Fee, and cost recovery for the Large Generator Interconnection Program (LGIP). A change for 2009 is the exclusion of the costs of the reliability coordination function from the O&M budget, with the corresponding elimination of the reimbursement of such costs from WECC. There is no net effect on the Revenue Requirement for this change.

The Operating & Capital Reserves credit is a reduction or offset to the ISO's Revenue Requirement for 2009. In any year that the ISO's Operating & Capital Reserves Account is expected to exceed 15% of prospective year's O&M budget, such excess is to be used as a reduction in the revenue requirement for the coming year. For 2009, the ISO forecasts a credit from the Operating & Capital Reserves account of \$17 million compared with \$21.2 million in 2008, \$25.2 million in 2007 and \$30.3 million in 2006. The Operating & Capital Reserves Account is calculated separately for each GMC category, and the details of the calculation are posted on the ISO website with other budget and GMC related materials.

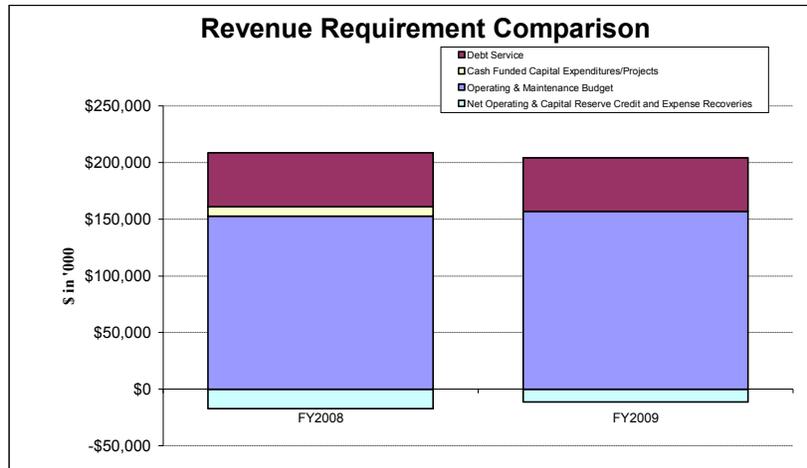
2009 will see the start of MRTU with locational marginal pricing and the day-ahead energy market. These enhancements will necessitate a change to certain aspects of the current GMC rate structure. These rate structure changes were approved by the Governing Board in December 2007, and filed with FERC in early 2008.

As in past years, the costs of ISO staff dedicated full-time to capital projects including PMO staff working on Market and Performance (MAP) initiatives³ have been removed from the O&M budget, and will be charged to the capital projects ("capitalized") and funded with bond proceeds. Other ISO staff engaged to a lesser extent on capital projects are budgeted in their respective cost centers in the O&M budget, but will be capitalized for the financial statements prepared in accordance with generally accepted accounting principles ("GAAP").

³ For 2009, 6 staff from the program management office are to be engaged on capital projects and accordingly such staff costs are excluded from the O&M budget. This is comparable to 2008 and 2007, when six staff from the Program Office (cost center 2731) and MRTU Program (cost center 2741) were excluded from the O&M budget.

2009 Budget Overview

The Exhibits in this section provide a high level overview of the ISO Revenue Requirement and indicative, bundled GMC rates.



	FY2008 Budget	FY2009 Proposed Budget	Change	% Change
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Revenue Requirement					
Core Operating & Maintenance Budget	\$151,954	\$155,877	\$ 3,923	2.6%	
Add: LGIP Program	\$701	\$866			
Total Gross O&M	\$152,655	\$156,743	\$ 4,087	2.7%	
Financing Budget:					
Subtotal, Financing Collection	59,520	59,373	\$ (147)	-0.2%	
Capital / Project Funding	8,500	-			
Subtotal, Revenue Requirement Prior to Credits	220,675	216,116	\$ (4,559)	-2.1%	
Less: Expense Recovery Budget:					
Subtotal, Expense Recovery Budget	(7,814)	(6,141)	\$ 1,674	-21.4%	
Subtotal, Revenue Requirement before Revenue Credit	\$212,861	\$209,975	\$ (2,886)	-1.4%	
Revenue Credit From Operating & Capital Reserve	Note 1	(21,226)	(16,997)	\$ 4,229	-19.9%
Total Revenue Requirement	\$191,635	\$192,978	\$ 1,343	0.7%	

Notes:

1 Revenue Credit from Operating Reserve--Detail posted to CAISO website.

2 Misc. Revenues include: SC Application Fees, Training Fees, wind, MSS, Station Power, etc.

Divided by:			
Transmission Volume in Gwh	Prior Budget	253,700	255,000
	Current Forecast	249,648	248,648

Equals:

Pro-forma Bundled GMC				
Budgeted rate per Mwh	Note 3	0.755	0.776	2.8%
Rate assuming normal load growth			0.757	

3 GMC, as implemented, is unbundled in various charge types. The above is for comparative purposes only

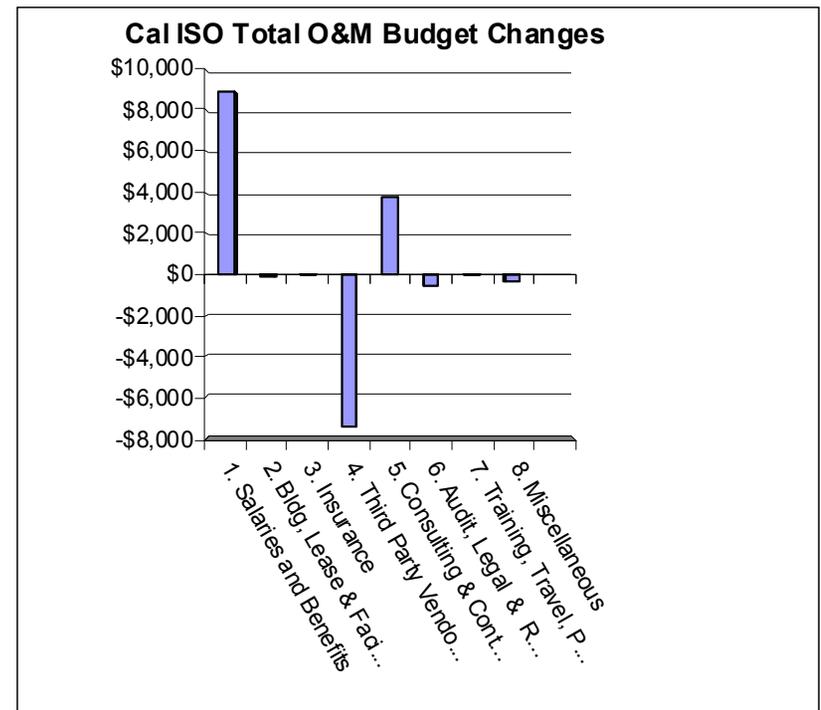
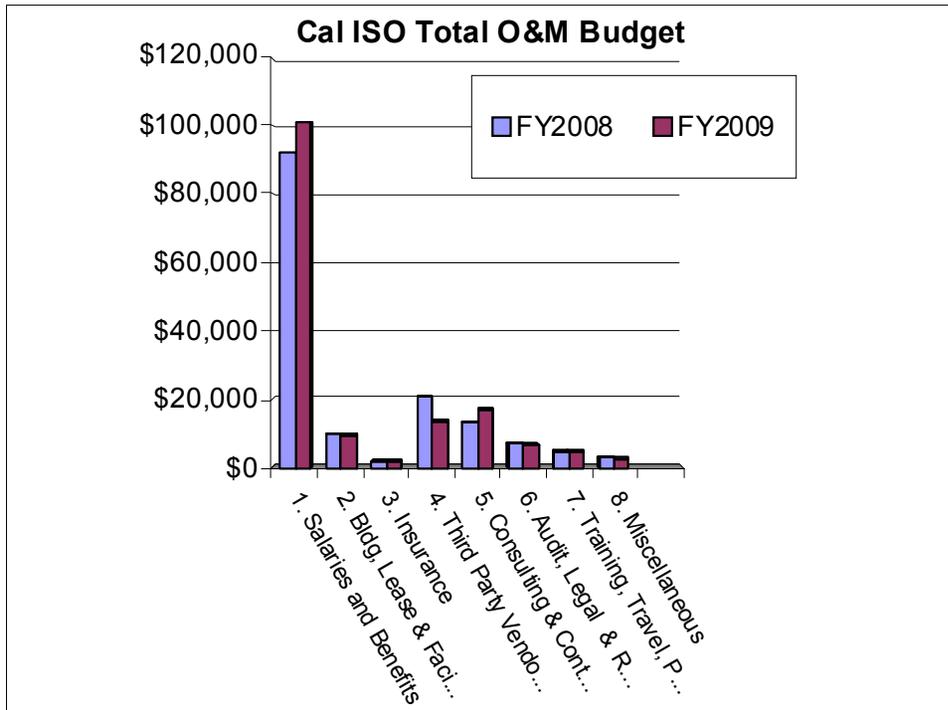
V. BUDGET DETAIL AND ANALYSIS

The Exhibits in this section provide additional detail regarding the 2009 Budget, including:

- Charts of budgeted expenses by type for 2008 and 2009
- Detailed table of 2008 / 2009 budgets by Department
- Reconciliation of 2008 vs. 2009 budget

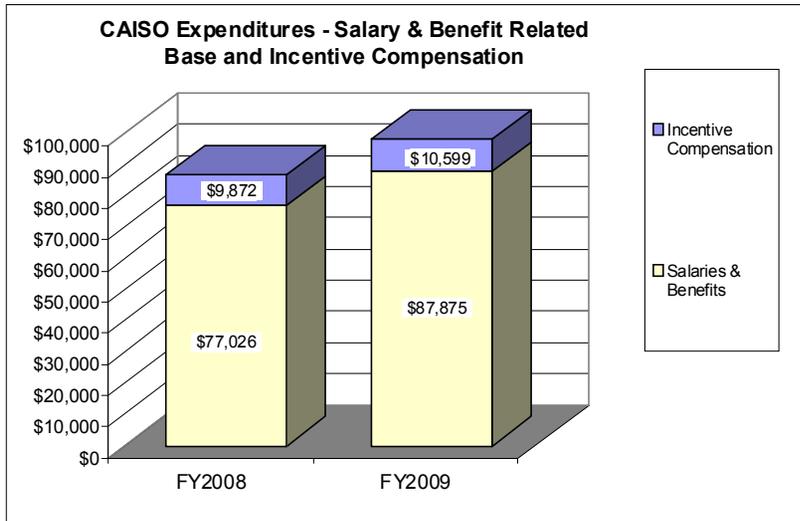
Exhibit: Chart-Expenses By Category

FY2009 Budget Overview
\$ in 000's



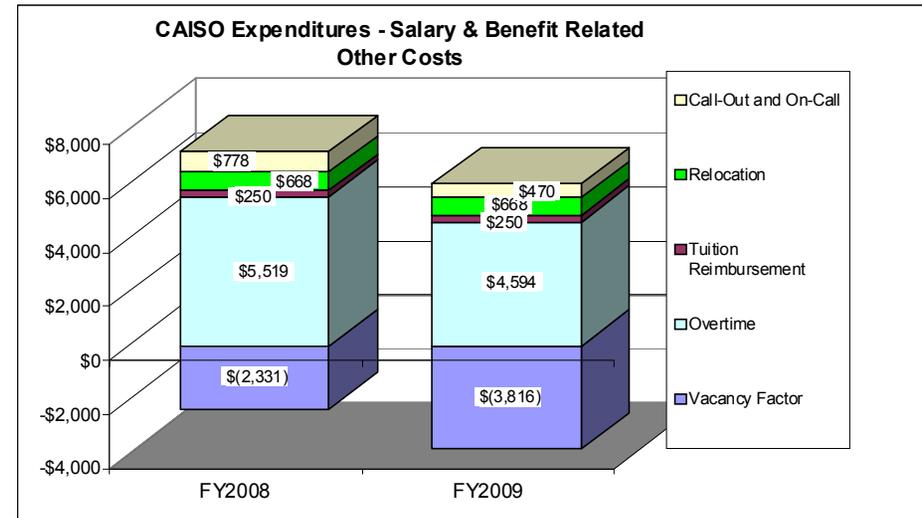
- Detailed explanatory charts follow.

Exhibit: Chart-Expenses By Category



Incentive compensation: No change in Program. Anticipated amount increases slightly due to merit increase in 2009.

Salaries & Benefits: Includes payroll burden of 33% (benefits, employer payroll taxes, etc.) 4% merit increase, with cost of approximately \$3.2 million. Balance of increase is related to additional funded staff in the O&M budget, including approximately 30 staff for insured IT functions (with corresponding reduction in outsourced vendor contracts).



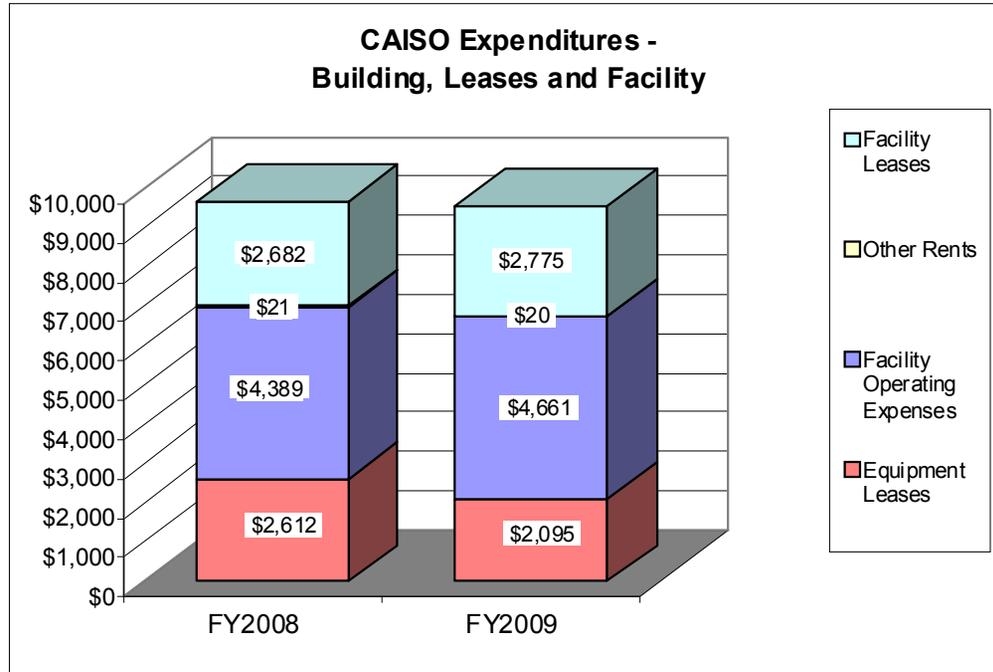
Other Comp/OT: Overtime pay includes OT for non-exempt workers and shift-workers.

Net amount anticipated to decrease 17% in 2009, with transition to steady-state operations upon implementation of MRTU in early 2009.

Call-out/on-call: reduction of 40% anticipated, due to tighter control/implementation of MRTU.

Vacancy Factor: increase in assumed vacancy factor from approximately 15 positions in 2008 to 24 positions in 2009.

Exhibit: Chart-Expenses By Category

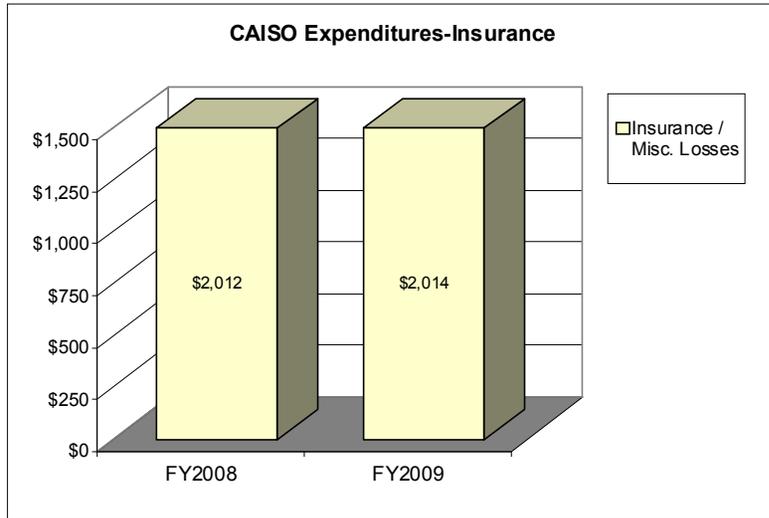


Facility Leases: Annual rent increases of 3%

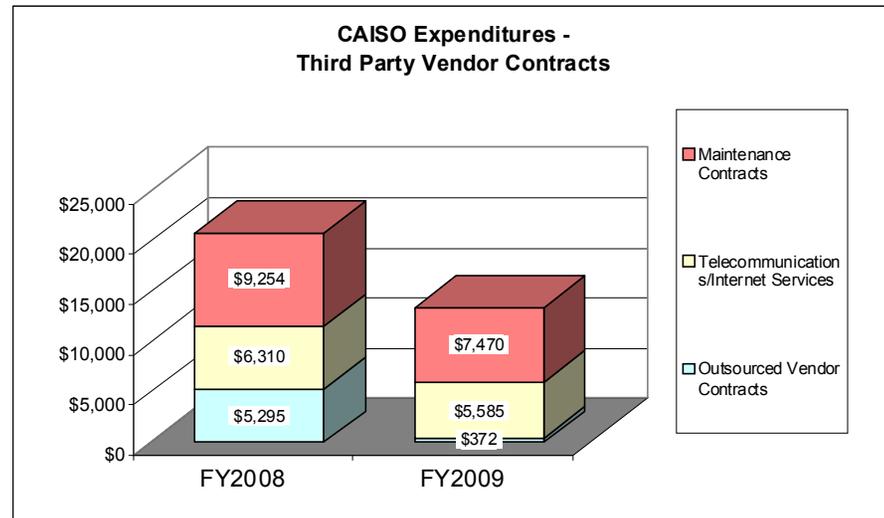
Facility Operating Expenses: 6% increase in cost of utilities and security costs.

Equipment Leases: Reduced lease costs due to planned buyout of telephone equipment (June 2009) and reduction in contract leases.

Exhibit: Chart-Expenses By Category

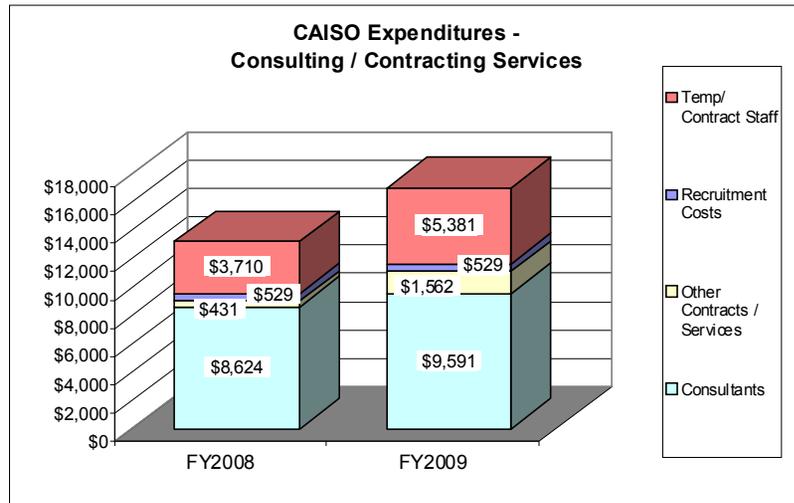


Reduction in E&O/D&O costs due to Tariff change in CAISO liability to gross negligence from simple negligence, offset by anticipated cost increases in other policies.

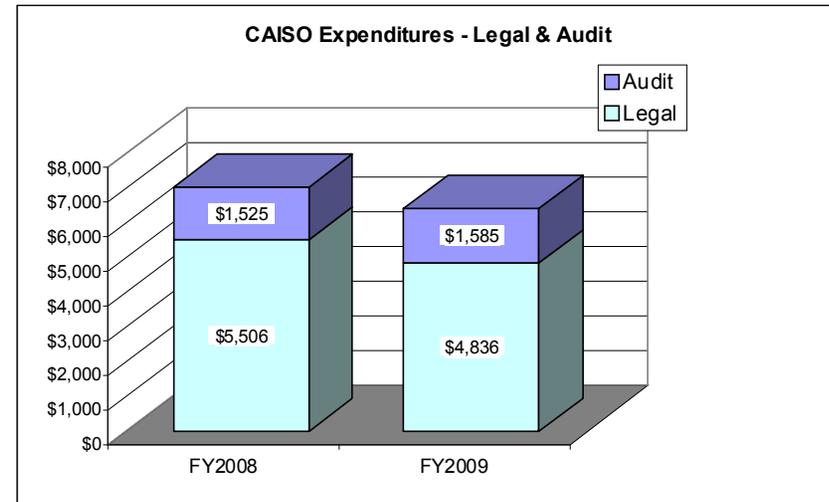


Reduced costs of IT hardware/software maintenance contracts by (\$2.2 million). Non renewal of certain agreements and cost savings from signing other longer-term agreements. Reduced costs of Telecom and Internet Services in the amount of (\$690K - Early renewal of AT&T 5-year contracts in May 2008 will result in savings \$700K in 2009). This was primarily due to a reduction in Enterprise and Network Management charges and replacement of the previous year's Internet vendor. Outsourced Vendor contracts for IT services eliminated for 2009, as services are in-sourced.

Exhibit: Chart-Expenses By Category



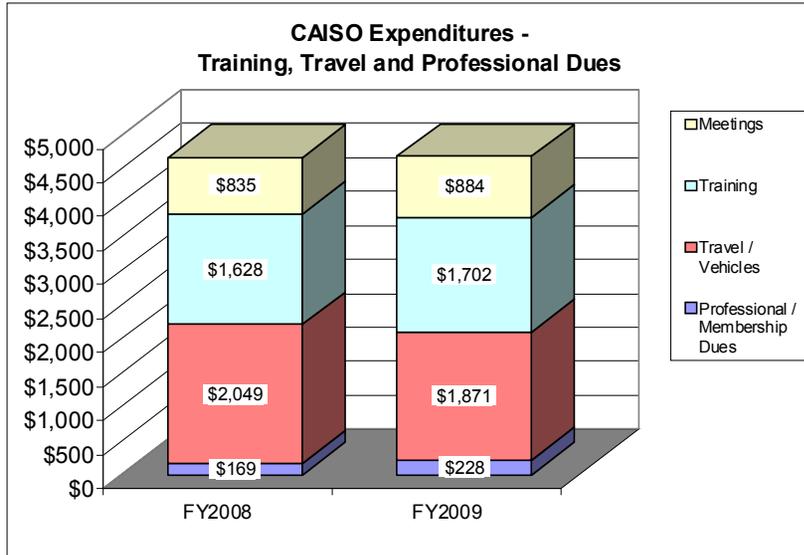
Temp/Contract Staff: Net Increase due to MRTU support and 2009 Capital and O & M Projects as well as consulting for Performance Improvement.
 Other Contract Services & Consulting: Increases due to Market Development and Operational activities, including Weather Forecasting Services, (\$360K) and other Operations related contracts, including for Default Energy Bids, and LECG contract, (\$800K).



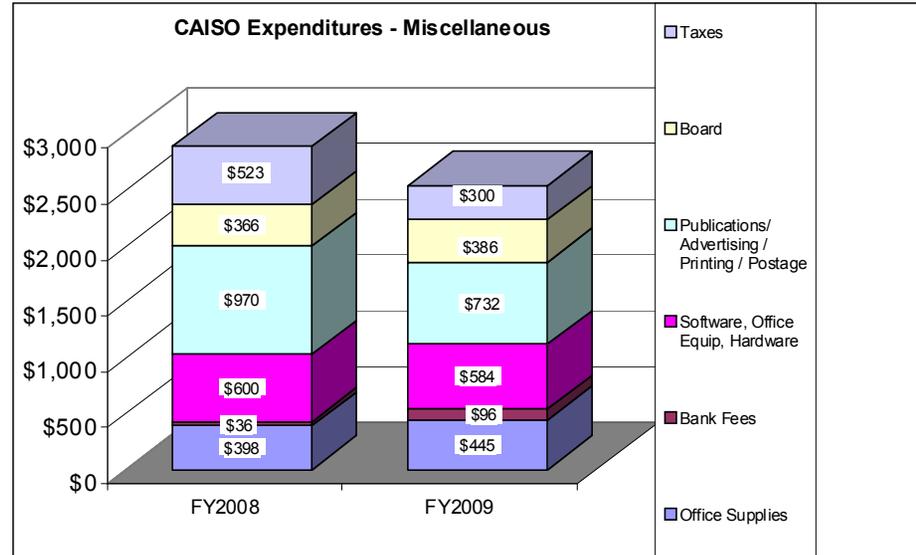
Audit: Comporable to 2008. MRTU SAS70 work will cost somewhat more in first year.
 Legal: Reduction due to planned additional in-sourcing of legal needs, through addition of staff counsel.

Exhibit: Chart-Expenses By Category

FY2009 Budget Overview: by Expense Type
\$ in 000's



Meetings: Increase due to Stakeholder Meetings as well as organizational Team Building.
 Training: Increase due to additional requirements for Technical training.
 Travel/Vehicles: Reduction of (\$200K), aligning costs w/ 2007/2008 spending forecast.
 Professional/Membership Dues: Net increase due to various organizational Membership Programs, including Gartner IT forums.



Taxes: Commencement of construction on CAISO owned land for facility results in elimination of property tax (\$200K).
 Board: Decrease due to reduction in forecast of 2009 Meetings.
 Publications: Reduced costs in Corporate postage and shipping.
 Software, Office Equipment, Hardware: Cost reductions in software expense, hardware upgrades and repairs and miscellaneous telecom expenditures.
 Bank Fees: Lower earnings allowance on bank balances results in higher net

Detailed Table of O&M Budget by Department

Cost Center	Area	FY2008 O&M Budget	FY2008 Budgeted Headcount (gross)	FY2009 Base Budget	FY2009 Base Budget Headcount	FY2009 INC Programs	FY2009 INC Program FTEs	FY2009 DEC Programs	FY2009 DEC Program FTEs	FY2009 Budget (with Approved INCS)	FY2009 Budget FTEs
2100	CEO / Direct Reports	\$ 11,094,832	38.0	\$ 11,694,465	38.0	\$ 444,980	3.0	\$ -	-	\$ 12,139,445	41.0
2111	CEO - General	2,015,896	3.0	2,069,262	3.0	-	-	-	-	2,069,262	3.0
2131	Organizational Effectiveness	483,698	4.0	836,268	4.0	142,938	1.0	-	-	981,206	5.0
2371	Enterprise Risk Management - General	-	-	-	-	-	-	-	-	-	-
2120	Market Monitoring	\$ 2,803,527	13.0	\$ 2,922,263	13.0	\$ 302,042	2.0	\$ -	-	\$ 3,224,325	15.0
2121	Market Monitoring	1,386,956	2.0	750,858	2.0	-	-	-	-	750,858	2.0
2123	Monitoring and Reporting	519,235	6.0	901,625	6.0	151,021	1.0	-	-	1,052,646	7.0
2124	Analysis and Mitigation	541,836	5.0	904,300	5.0	151,021	1.0	-	-	1,055,321	6.0
2122	Market Surveillance Committee	365,500	-	365,500	-	-	-	-	-	365,500	-
2340	Human Resources	\$ 5,791,711	18.0	\$ 5,864,632	18.0	\$ -	-	\$ -	-	\$ 5,864,632	18.0
2341	Human Resources	4,363,242	3.0	3,749,582	3.0	-	-	-	-	3,749,582	3.0
2342	Learning and Organizational Development	316,341	4.0	567,044	4.0	-	-	-	-	567,044	4.0
2343	Compensation and Benefits	626,806	6.0	838,682	6.0	-	-	-	-	838,682	6.0
2344	HR Operations	485,322	5.0	709,324	5.0	-	-	-	-	709,324	5.0
2200	VP Market & Infrastructure Development	\$ 14,754,208	71.0	\$ 15,232,298	72.0	\$ 550,865	4.0	\$ -	-	\$ 15,783,163	76.0
2211	VP Market and Infrastructure Development	1,520,167	2.0	1,969,766	5.0	136,238	1.0	-	-	2,106,004	6.0
2751	Regional Market Initiatives	213,478	1.0	408,766	1.0	-	-	-	-	408,766	1.0
2221	Region Transmission - North	2,624,466	15.0	3,027,883	17.0	-	-	-	-	3,027,883	17.0
2231	Region Transmission - South	3,051,447	17.0	3,427,807	17.0	-	-	-	-	3,427,807	17.0
2241	Grid Assets	1,722,236	9.0	1,423,273	7.0	-	-	-	-	1,423,273	7.0
2242	Generator Interconnections	659,396	5.0	824,143	6.0	-	-	-	-	824,143	6.0
2720	Market & Product Development	\$ 4,963,018	22.0	\$ 4,150,660	19.0	\$ 414,627	3.0	\$ -	-	\$ 4,565,287	22.0
2721	Market & Product Development - General	1,509,276	5.0	584,298	2.0	186,992	1.0	-	-	771,290	3.0
2722	Tariff & Regulatory Policy Development	1,870,312	9.0	2,074,496	9.0	86,747	1.0	-	-	2,161,243	10.0
2723	Infrastructure Policy/Reg_Contract Negotiation	1,583,430	8.0	1,491,866	8.0	140,888	1.0	-	-	1,632,754	9.0
2400	VP Corporate Services	\$ 64,952,025	154.0	\$ 65,908,159	188.0	\$ 1,264,817	8.0	\$ (1,158,921)	(6.0)	\$ 66,014,055	190.0
2411	VP Corporate Services- General	1,150,450	4.0	1,049,600	3.0	-	-	-	-	1,049,600	3.0
2412	Asset Management	11,686,000	-	10,106,152	4.0	-	-	-	-	10,106,152	4.0
2351	Facilities	7,534,354	7.0	7,578,587	7.0	-	-	-	-	7,578,587	7.0
2361	Procurement & Vendor Management	1,509,350	8.0	1,454,111	8.0	-	-	-	-	1,454,111	8.0
2310	CFO and Treasurer	\$ 6,988,411	18.0	\$ 6,873,644	18.0	\$ 75,823	1.0	\$ -	-	\$ 6,949,467	19.0
2311	CFO- General	537,917	1.0	502,936	1.0	-	-	-	-	502,936	1.0
2321	Accounting	2,953,971	10.0	3,065,171	10.0	75,823	1.0	-	-	3,140,994	11.0
2331	Treasury, Finance and Credit	3,496,523	7.0	3,305,537	7.0	-	-	-	-	3,305,537	7.0
2460	IT Strategy and Support	\$ 9,575,372	55.0	\$ 12,285,108	58.0	\$ 618,093	4.0	\$ -	-	\$ 12,903,201	62.0
2461	IT Strategy and Support-General	334,088	1.0	732,522	3.0	-	-	-	-	732,522	3.0
2454	Architecture & Systems Engineering	1,928,874	11.0	2,081,079	11.0	-	-	-	-	2,081,079	11.0
2462	EMS Information Technology	2,399,665	15.0	2,571,411	15.0	-	-	-	-	2,571,411	15.0
2463	Operations Information Technology	1,410,889	9.0	2,054,255	8.0	-	-	-	-	2,054,255	8.0
2464	Corporate Systems	2,688,967	13.0	3,049,275	14.0	-	-	-	-	3,049,275	14.0
2465	Critical Systems	812,989	6.0	1,796,566	7.0	618,093	4.0	-	-	2,414,659	11.0
2420	IT Projects	\$ 6,541,566	19.0	\$ 7,034,365	20.0	\$ 396,837	2.0	\$ -	-	\$ 7,431,202	22.0
2421	IT Projects	741,695	4.0	1,106,247	5.0	-	-	-	-	1,106,247	5.0
2431	Application Development	3,840,478	-	4,026,485	11.0	-	-	-	-	4,026,485	11.0
2432	Retired- Formerly Application Development	846,929	11.0	-	-	-	-	-	-	-	-
2441	Software Quality Assurance	1,112,464	4.0	1,901,633	4.0	396,837	2.0	-	-	2,298,470	6.0
2450	IT Support & Operations	\$ 19,330,924	34.0	\$ 17,546,555	60.0	\$ 174,064	1.0	\$ -	-	\$ 17,720,619	61.0
2451	IT Support & Operations - General	12,011,242	2.0	6,903,202	2.0	-	-	-	-	6,903,202	2.0
2452	System Administration/DBAs	2,421,652	11.0	2,318,116	11.0	-	-	-	-	2,318,116	11.0
2453	Data Center & Operations	1,374,741	7.0	2,506,281	14.0	-	-	-	-	2,506,281	14.0
2455	Support Services	0	-	1,860,692	14.0	174,064	1.0	-	-	2,034,756	15.0
2456	System Administration	0	-	1,875,204	11.0	-	-	-	-	1,875,204	11.0
2373	Information Security	1,474,579	6.0	-	-	-	-	-	-	-	-
2374	Physical Security	2,048,710	8.0	2,083,060	8.0	-	-	-	-	2,083,060	8.0
2730	Program Office	\$ 635,598	9.0	\$ 1,980,037	10.0	\$ -	-	\$ (1,158,921)	(6.0)	\$ 821,116	4.0
2731	Program Office	608,310	6.0	1,284,121	6.0	-	-	(1,158,921)	(6.0)	125,200	-
2741	MRTU Program / Program Lifecycle & Process	27,288	3.0	695,916	4.0	-	-	-	-	695,916	4.0

Cost Center	Area	FY2008 O&M Budget	FY2008 Budgeted Headcount (gross)	FY2009 Base Budget	FY2009 Base Budget Headcount	FY2009 INC Programs	FY2009 INC Program FTEs	FY2009 DEC Programs	FY2009 DEC Program FTEs	FY2009 Budget (with Approved INCS)	FY2009 Budget FTEs
2500	VP of Operations	\$ 44,351,931	216.0	\$ 45,594,139	219.0	\$ 1,441,021	9.0	\$ (1,775,624)	(8.0)	\$ 45,259,536	220.0
2511	VP of Operations - General	1,546,901	2.0	1,463,910	2.0	-	-	-	-	1,463,910	2.0
2571	Renewables Integration	-	-	-	-	553,142	2.0	-	-	553,142	2.0
2520	Grid Operations	\$ 20,107,239	92.0	\$ 19,345,907	92.0	\$ 435,601	5.0	\$ -	-	\$ 19,781,508	97.0
2521	Grid Operations - General	419,314	2.0	420,197	2.0	-	-	-	-	420,197	2.0
2522	Real Time Operations	15,513,963	72.0	15,357,176	72.0	-	-	-	-	15,357,176	72.0
2523	Scheduling	1,843,597	9.0	1,854,601	9.0	-	-	-	-	1,854,601	9.0
2524	Outage Management	2,330,365	9.0	1,713,933	9.0	435,601	5.0	-	-	2,149,534	14.0
2530	Grid Operations Development	\$ 2,062,982	12.0	\$ 2,254,119	12.0	\$ 256,238	1.0	\$ -	-	\$ 2,510,357	13.0
2531	Grid Operations Development	699,852	5.0	825,644	5.0	-	-	-	-	825,644	5.0
2251	Network Applications	1,363,130	7.0	1,428,475	7.0	256,238	1.0	-	-	1,684,713	8.0
2540	Market Services	\$ 11,015,961	56.0	\$ 11,922,682	57.0	\$ 196,040	1.0	\$ -	-	\$ 12,118,722	58.0
2541	Market Services-General	919,009	3.0	1,175,983	3.0	196,040	1.0	-	-	1,372,023	4.0
2542	Market Operations	3,540,448	13.0	4,238,129	14.0	-	-	-	-	4,238,129	14.0
2543	Settlements & Billing	2,648,117	16.0	3,597,230	22.0	-	-	-	-	3,597,230	22.0
2544	Settlement Projects	1,035,328	6.0	-	-	-	-	-	-	-	-
2545	Market Information	2,873,059	18.0	2,911,340	18.0	-	-	-	-	2,911,340	18.0
2550	Operations Support	\$ 7,622,501	46.0	\$ 8,831,897	48.0	\$ -	\$ -	\$ -	-	\$ 8,831,897	48.0
2551	Operations Support - General	319,466	1.0	788,673	3.0	-	-	-	-	788,673	3.0
2552	Operations Data & Compliance	2,530,060	16.0	2,392,913	14.0	-	-	-	-	2,392,913	14.0
2553	Operations Procedures & Training	1,943,666	11.0	2,155,039	11.0	-	-	-	-	2,155,039	11.0
2554	Model & Contract Implementation	1,536,249	10.0	1,745,740	10.0	-	-	-	-	1,745,740	10.0
2555	Operations Analysis	1,293,160	8.0	1,749,532	10.0	-	-	-	-	1,749,532	10.0
2561	Reliability Coordination	1,996,347	8.0	1,775,624	8.0	-	-	(1,775,624)	(8.0)	0	-
2600	General Counsel & VP Legal Affairs	\$ 11,861,012	27.0	\$ 11,885,549	28.0	\$ 700,668	3.0	\$ -	-	\$ 12,586,217	31.0
2611	Corporate Counsel - General	6,362,431	2.0	5,669,200	2.0	310,264	1.0	-	-	5,979,464	3.0
2620	AGC Group	\$ 3,789,794	19.0	\$ 3,986,080	19.0	\$ 219,889	1.0	\$ -	-	\$ 4,205,969	20.0
2621	Asst. General Counsel - Corporate	698,933	3.0	741,341	3.0	-	-	-	-	741,341	3.0
2631	Asst. General Counsel - Regulatory	1,513,784	5.0	1,378,003	5.0	219,889	1.0	-	-	1,597,892	6.0
2641	Asst. General Counsel - Tariff	1,203,764	5.0	1,311,456	5.0	-	-	-	-	1,311,456	5.0
2661	Paralegal and Office Administration	373,313	6.0	555,280	6.0	-	-	-	-	555,280	6.0
2651	Asst. Corporate Secretary	661,832	1.0	792,601	1.0	-	-	-	-	792,601	1.0
2671	Mandatory Standards Compliance	458,175	2.0	845,737	3.0	170,495	1.0	-	-	1,016,232	4.0
2372	Internal Audit	588,780	3.0	591,931	3.0	-	-	-	-	591,931	3.0
2800	VP External Affairs	\$ 7,847,965	39.0	\$ 8,496,236	40.0	\$ -	\$ -	\$ -	-	\$ 8,496,236	40.0
2811	VP External Affairs - General	632,518	2.0	893,379	2.0	-	-	-	-	893,379	2.0
2840	Customer Service and Industry Affairs	\$ 3,980,016	23.0	\$ 4,174,159	24.0	\$ -	\$ -	\$ -	-	\$ 4,174,159	24.0
2841	Customer Services & Industry Affairs-General	2,272,842	6.0	1,458,355	6.0	-	-	-	-	1,458,355	6.0
2842	Customer Service	1,157,900	11.0	1,847,542	12.0	-	-	-	-	1,847,542	12.0
2843	Stakeholder and Industry Affairs	549,274	6.0	868,262	6.0	-	-	-	-	868,262	6.0
2820	Communications & Public Relations	\$ 1,876,918	8.0	\$ 1,956,606	8.0	\$ -	\$ -	\$ -	-	\$ 1,956,606	8.0
2821	Communications & Public Relations - General	1,040,078	4.0	1,081,830	4.0	-	-	-	-	1,081,830	4.0
2822	Information Products & Services	836,840	4.0	874,776	4.0	-	-	-	-	874,776	4.0
2830	Governmental Affairs Group	\$ 1,358,513	6.0	\$ 1,472,092	6.0	\$ -	\$ -	\$ -	-	\$ 1,472,092	6.0
2831	State Affairs	1,008,331	4.0	528,840	3.0	-	-	-	-	528,840	3.0
2832	Regulatory Affairs	171,047	1.0	561,571	2.0	-	-	-	-	561,571	2.0
2833	Federal Affairs	179,135	1.0	381,681	1.0	-	-	-	-	381,681	1.0
2000	Other Compensation Adjustments	\$ (2,205,963)	-	\$ (3,536,000)	(23.0)	\$ -	\$ -	\$ -	-	\$ (3,536,000)	(23.0)
11	Other (including vacancy factor)	(2,205,963)	-	(3,536,000)	(23.0)	-	-	-	-	(3,536,000)	(23.0)
Subtotal (excluding Capitalized Staff)		152,656,011	545.0	155,274,846	562.0	4,402,351	27.0	(2,934,545)	(14.0)	156,742,652	575
Subtotal also excluding LGIP		151,996,615	540.0							155,918,509	569
Subtotal also excluding LGIP and WECC in 2008			526.0								569
Total Gross O&M Budget		\$ 152,656,011		\$ 155,274,846		\$ 4,402,351		\$ (2,934,545)		\$ 156,742,652	
Debt Service		47,616,051		47,498,500						47,498,500	
Operating Reserve (25% debt Service)		11,904,013		11,874,625						11,874,625	
Cash Funded CapEx		8,500,000									
Expense Recovery		(7,814,430)		(6,140,849)						(6,140,849)	
Subtotal		\$ 212,861,643		\$ 208,507,122		\$ 4,402,351		\$ (2,934,545)		\$ 209,974,928	
Financial & Capital Operating Reserve Credit		\$ (21,225,890)		\$ (16,997,202)						(16,997,202)	
Revenue Requirement after Revenue Credit		\$ 191,635,753								192,977,726	
/ Transmission Volume		253,700,000								248,648,085	
=Bundled GMC Rate		\$ 0.755								\$ 0.776	

Reconciliation with Prior Year Budget

The proposed 2009 O&M budget provides funding for the ISO's existing services and other requirements identified in the Corporate Strategic Plan for 2009. The O&M budget of \$156.7 million compares to the 2008 O&M budget of \$152.7 million, which is an increase of about \$4 million, or 2.8%. A reconciliation of the 2009 versus 2008 O&M budget follows:

2008 Operations & Maintenance Budget	\$ 152,655
<u>Increases in the Budget</u>	17,903
<i>Salary and Benefits:</i>	
Compensation adjustments for 2009	3,600
Increased staffing related to IT contract conversion	4,414
Other increased staffing in O&M Budget	5,387
<i>Buildings, Leases and Facility:</i>	
Increase in annual lease costs and operating expenses	365
<i>Consulting, Temporary Contract Staff</i>	
Project support in IT, Operations support for CRR, IRM/RTM, recruitment costs	3,768
<i>Audit:</i>	
SAS70 Costs related to MRTU	60
<i>Training, and Professional Dues:</i>	
Increase in training for ISO Academy and misc. prof. dues	182
<i>Miscellaneous:</i>	
Increase in bank fees due to lower bank earning allowances, and align office supply expense to actual experience	126
<u>Decreases in the Budget</u> (13,815)	
<i>Salary and Benefits:</i>	
Elimination of Reliability Coordination cost center	(1,900)
Increase in headcount vacancy factor	(1,485)
Reduction in Overtime/Callouts	(998)
<i>Buildings, Leases and Facility:</i>	
Net decrease in annual property taxes	(223)
Decrease in equipment lease costs	(517)
<i>Third Party Vendor Contracts :</i>	
Reduction in software/hardware maintenance costs	(1,784)
Elimination of outsourced IT service contracts	(4,923)
Reduction in telecom/internet costs	(725)
<i>Legal:</i>	
Reduction in outside legal costs related to in-housing additional recurring legal work	(670)
<i>Miscellaneous:</i>	
Decrease in publications, misc. hardware/software	(234)
Decrease in property taxes due to commencement on facility construction	(178)
Net Decreases	4,088
2009 Proposed O&M Budget	\$ 156,743

VI. ISO STAFFING OVERVIEW

The following sections overview ISO staffing issues, including organizational changes and staffing levels and priorities. ISO staff are a critically important resource, and salaries & benefit comprise 64% percent of the O&M budget. The ISO’s staffing strategy is to be seen as the “Employer of Choice” to attract and retain the best and brightest individuals in the industry. The ISO employs an “evergreen” recruiting strategy—the Company is constantly looking for the best talent, and at times will revise the organizational structure to accommodate such individuals. The Company also periodically makes organizational changes to align resources to focus on the important matters identified in the Strategic Plan, and to reflect end-to-end business processes.

2008 Organizational Changes

During 2008, several ISO departments were realigned, reflecting the consolidation of two executive positions (combining the previous “CFO/Corporate Services Division” and “IT Division” into the new “Corporate Services Division”, and combining “Planning and Infrastructure Development” and the Market & Product Development portion of the “Market Development and Program Management Division” into the new Market and Infrastructure Planning). Other functions were transferred as part of this realignment, including aligning Enterprise Risk Management with the Strategic Planning function in the expanded Organizational Effectiveness department. Internal Audit, previously part of the CFO Division, was transferred to the General Counsel/Chief Compliance Officer. Safety was transferred to Human Resources, which also has responsibility for worker’s compensation claim administration.

With the elimination of two Vice President positions during 2008, funding for those positions has been allocated to other key priorities in 2009, including Mandatory Standards Compliance and support of State environmental policies. Numerous additional staff positions have been revised and redeployed to target resources on the key initiatives identified in the 2008-2012 Strategic Plan. This will continue during 2009, after the deployment of MRTU.

Since the development of the 2008 budget, certain new departments were created, including:

<u>Division</u>	<u>Department</u>
Operations	2571 Renewables Integration
General Counsel	2671 Mandatory Standards Compliance
Corporate Services	2455 Support Services

2456 System Administration
2461 IT Strategy & Support
2465 Critical Systems

Several departments were disaggregated to provide for additional cost tracking granularity. Other departments were consolidated or renamed. These changes include:

<u>Division</u>	<u>Previous</u>	<u>Now Department</u>
CEO	2121 Market Monitoring	<ul style="list-style-type: none"> 2121 Market Monitoring 2123 Monitoring and Reporting 2124 Analysis and Mitigation
CEO	2341 Human Resources	<ul style="list-style-type: none"> 2341 Human Resources 2342 HR Corp. Learning/Org. Devpt 2343 HR Compensation & Benefits 2344 HR Operations
General Counsel	Various	2661 Paralegal & Office Administration
External Affairs	2641 Customer Service & Industry Affrs	<ul style="list-style-type: none"> 2641 Customer Service & Industry Affrs 2642 Customer Service 2843 Stakeholder and Industry Affairs
Operations	<ul style="list-style-type: none"> 2543 Settlements 2544 Settlements Projects 	2543 Settlements
Corporate Services	2741 MRTU	2741 Program Life Cycle & Process
Corporate Services	2431 IT Planning, Arch & Standards	2431 IT Projects Management
Corporate Services	2371 Enterprise Risk Management	<ul style="list-style-type: none"> 2131 Organizational Effectiveness 2731 Program Office

As a result of these and other organizational changes, the 2008 Budget has been revised to reflect such staffing changes and transfers. Accordingly, the comparative staffing and cost figures used in this report reflect the “2008 Adjusted Budget”. The costs and staffing do have not changed overall, but have been reallocated to reflect the revised organization. These departmental changes have also been reflected in the cost allocations necessary to arrive at the 2009 GMC rates.

Staffing Levels

The overall staffing level at the ISO in 2009 is anticipated to remain comparable to actual 2008 staffing levels, except for the in-sourcing of IT functions previously provided by an outside contractor⁴. Gross departmental staffing figures will exceed actual staff on board due to anticipated vacancies, and the budget reflects a vacancy factor of 3.8% of staff, or about 23 positions. This is an increase from the 2.5% vacancy factor assumed in the 2008

⁴ See “Use of Contractors” in this section. Analysis of this issue is ongoing at the time of publication of this document, so has not yet been fully reflected in this preliminary budget document.

budget. The savings for this assumed vacancy factor are budgeted in a central department, as actual vacancies during the year cannot be predicted by department.

CAISO Division	FY2008 Budget	FY2009 Proposed Budget
Corporate Vacancy Factor (\$2.3 million in 2008 and \$3.9 million in 2009)	<i>Savings reflected in budget, but staff reduction not shown here</i>	(23.0)
CEO / Direct Reports	38.0	41.0
VP Market & Infrastructure Development	71.0	76.0
VP Corporate Services **	154.0	196.0
VP of Operations (incl. WECC Sec. Coord. In 2008, not in 2009)	216.0	220.0
General Counsel	27.0	31.0
VP External Affairs	39.0	40.0
Subtotal (Actual staffing on payroll not to exceed)	545.0	581.0
Less: LGIP Program	(5.0)	(6.0)
WECC Security Coordinators	(8.0)	-
MRTU / PMO Staff Capitalized *	(6.0)	(6.0)
Net Staff in O&M budget (including IT insourcing in 2009)	526.0	569.0

* Excludes staff working full time on MRTU or MAP, whose costs are funded in the respective capital budgets.

** 2009 budget includes additional staff from in-sourcing functions from information technology services contract.

Impact of MRTU

While MRTU brings a market structure that will provide for improved efficiency, reduced congestion costs, and other enhancements anticipated to facilitate more reliable operations, MRTU requires certain incremental staffing needs that are funded in the 2009 budget including:

Division	Area	Staff
Market Monitoring	1. Monitoring and Reporting	1
	2. Analysis and Mitigation	1
Corporate Services	1. Credit Management for CRR/convergence bidding support (included 2008 budget)	1
	2. Critical Systems	4
	3. Software Quality Assurance	2
	4. System Administration/DBAs	1
Operations	1. Network modelers (development and updates to full network model)	5
	2. Sr. Network Engineer	1
	3. Sr Project Manager, Market Services (Market Quality System)	1
	Total	17

This is not a comprehensive list of staff supporting MTRU systems, but an overview of certain staff recently added to support MRTU.

Conversely, a significant number of staff are directly or indirectly working on the MRTU program, and after the program has been deployed and stabilized, these staff will be released from the MRTU project. Most of these staff will become available for other projects (including the MAP initiatives), will return to their original jobs, or will be absorbed into other jobs through attrition. Human Resources has conducted an extensive staffing analysis and developed a list of 79 ISO staff that are dedicating more than 50% of their time to MRTU. Nearly all of these staff have been determined to have a job to return to when MRTU is complete, though in many cases the jobs may differ from their jobs prior to MRTU (due to changes in functions within their home departments, and potentially, the need to realign resources towards changed priorities under the new market structure). The overall reduction in staffing in the O&M budget related to the completion of MRTU is accordingly anticipated to be minimal.

More substantial savings from the completion of MRTU are likely to arise from two areas: overtime and contractors. For the non-exempt staff included in the MRTU staffing analysis, there is projected 2008 overtime that will be non-recurring when MRTU is complete, of \$1.5 million. These savings have been reflected in the 2009 budget. Additionally, the completion of MRTU will result in a substantial reduction in contractors from the current spending rate. As of mid-2008, there were nearly 120 dedicated contractor resources associated with the MRTU project budget, and a comparable substantial number in the O&M budget supporting other work that will likely be reduced when ISO staff are released from the MRTU project. This has been considered in the development of the 2009 budget. However, budgeted consultant / contracting services still increase because 2008 spending on these services has been substantially higher than budgeted, and the 2009 budgeted amount reflects a substantial decrease from the 2008 spending rate.)

Use of Contractors

The ISO evaluates on an ongoing basis how to fulfill its responsibilities in a manner that is cost effective and which provides for the highest service quality, whether this is through hiring full-time employees or through the use of outside resource (contractors, consultants, or temporary staff). The 2009 budget contains over 200 expenditure line items related to the use of outside resources. At times, the Company may “in-source” work that was previously performed by contractors, when the work is of an ongoing nature and can be performed at lower overall cost and with the same or better service quality. The 2009 budget contains two notable examples of this:

1. **Corporate Services:** The need for resources related to the implementation of MRTU were identified during 2007, and seven additional ISO staff were hired, thus displacing contractors. The annual savings for these seven positions are estimated at approximately \$900,000.
2. **General Counsel:** During 2008, an additional attorney was hired, with funding for another regulatory attorney budgeted in 2009. Annual savings related to the in-sourcing of legal work for each position is estimated at \$300,000, or \$600,000 in total.

During 2008, ISO Management terminated an outsourced information technology services contact. The \$4.3 million contact cost was removed from the draft 2009 budget presented in September, and replaced with ISO personnel costs who will perform this work. Accordingly, third party vendor costs have been reduced and Salary & Benefits have been increased to reflect the costs of the approximately 30 staff that will perform these services.

Staffing Related to Other New Priorities

1. *State Environmental Policy:* As previously noted in Section V, ISO resources dedicated to the support of State environmental policies continue to increase. ISO created in 2008 a new department in the Operations Division named “Renewables Integration”. This creation of this department resulted in two additional authorized positions. The Infrastructure Policy and Contracts Department (Market and Infrastructure Development Division) also adds two new positions including a Demand Response Engineer and Renewable & Environmental Policy Engineer. Regional Transmission North (Market and Infrastructure Development Division) also adds a position (Communication Manager) in connection with the transmission system impacts of renewable integration. Additionally, numerous additional internal resources are supporting these important environmental initiatives.
2. *Mandatory Standards Compliance:* The 2009 budget includes funding and staffing for the newly created department that will monitor and promote compliance with NERC/WECC’s mandatory reliability standards. Three existing staff were redeployed to this department during 2008, with two new staff yet to be hired to support this critical function.
3. *Organizational Effectiveness:* An additional lead position was added for 2009 to assist this department with maturing the key corporate business processes, integration of enterprise risk management with business processes and strategic planning, and development of management and measurement capabilities to ensure alignment between the corporate initiatives and the strategic objectives identified in the business plan.

The staffing overviews that follow provide information about ISO full-time employees. These exhibits and do not display all of the resources, such as contractors & consultants, used by the ISO to fulfill its responsibilities.

Exhibit: Table-Detailed Staffing

Cost Center	Area	FY2008 Original Headcount Budget	2008 Adjusted Budget	FY2009 Headcount Base Budget	FY2009 Incremental Program FTEs	FY2009 Decremental Program FTEs	FY2009 Total Proposed FTE in O&M Budget	Description / Change
2100	CEO/Direct Reports	36.0	38.0	38.0	3.0	-	41.0	
2111	CEO-General	3.0	3.0	3.0	-	-	3.0	
2131	Organizational Effectiveness		4.0	4.0	1.0	-	5.0	Lead, Organizational Effectiveness, for Business Process Management
2371	Enterprise Risk Management-General	3.0	-	-	-	-	-	
2120	Market Monitoring	13.0	13.0	13.0	2.0	-	15.0	
2121	Market Monitoring-General	13.0	2.0	2.0	-	-	2.0	
2123	Monitoring and Reporting		6.0	6.0	1.0	-	7.0	Additional resources for MRTU
2124	Analysis and Mitigation		5.0	5.0	1.0	-	6.0	Additional resources for MRTU
2122	Market Surveillance Committee	-	-	-	-	-	-	
2340	Human Resources	17.0	18.0	18.0	-	-	18.0	
2341	Human Resources	17.0	3.0	3.0	-	-	3.0	
2342	Learning and Organizational Development		4.0	4.0	-	-	4.0	
2343	Compensation and Benefits		6.0	6.0	-	-	6.0	
2344	HR Operations		5.0	5.0	-	-	5.0	
2200	VP Market & Infrastructure Development	73.0	71.0	72.0	4.0	-	76.0	
2211	VP of Market & Infrastructure Dev-General	1.5	2.0	5.0	1.0	-	6.0	
2711	VP Market Development & Program Man. - C	3.5	-	-	-	-	-	
2751	Regional Market Initiatives		1.0	1.0	-	-	1.0	
2221	Region Transmission - North	15.0	15.0	17.0	-	-	17.0	PID Communications Manager
2231	Region Transmission - South	17.0	17.0	17.0	-	-	17.0	
2241	Grid Assets	9.0	9.0	7.0	-	-	7.0	
2242	Generator Interconnections	5.0	5.0	6.0	-	-	6.0	LGP Staff are funded outside the GMC, and will be hired as work requires.
2720	Market and Product Development	22.0	22.0	19.0	3.0	-	22.0	
2721	Market & Product Development-General	5.0	5.0	2.0	1.0	-	3.0	
2722	Tariff and Regulatory/Policy Development	9.0	9.0	9.0	1.0	-	10.0	New technical assistant for MRTU process support.
2723	Infrastructure Policy	8.0	8.0	8.0	1.0	-	9.0	1 Demand Response Engineer and 1 Renewable & Environmental Policy Engineer.
2400	VP Corporate Services	154.0	154.0	188.0	8.0	(6.0)	190.0	
2411	VP Corporate Services- General	3.5	4.0	3.0	-	-	3.0	
2412	Asset Management	-	-	4.0	-	-	4.0	
2351	Facilities	8.0	7.0	7.0	-	-	7.0	
2361	Procurement & Vendor Management	8.0	8.0	8.0	-	-	8.0	
2310	CFO & Treasurer	16.5	18.0	18.0	1.0	-	19.0	
2311	CFO- General	1.5	1.0	1.0	-	-	1.0	
2321	Accounting	7.5	10.0	10.0	1.0	-	11.0	Additional staff for LGIP and payables.
2331	Treasury, Finance and Credit	7.5	7.0	7.0	-	-	7.0	
2460	IT Strategy and Support	46.0	55.0	58.0	4.0	-	62.0	
2461	IT Strategy and Support-General	-	1.0	3.0	-	-	3.0	
2454	Architecture & Systems Engineering	9.0	11.0	11.0	-	-	11.0	
2462	EMS Information Technology	14.0	15.0	15.0	-	-	15.0	
2463	Operations Information Technology	11.0	9.0	8.0	-	-	8.0	
2464	Corporate Systems	12.0	13.0	14.0	-	-	14.0	
2465	Critical Systems		6.0	7.0	4.0	-	11.0	Deployment and ongoing support of MRTU. Additional staff related to IT services insourcing.
2420	IT Projects	24.0	19.0	20.0	2.0	-	22.0	
2421	IT Projects	4.0	4.0	5.0	-	-	5.0	
2431	Application Development	15.0	-	11.0	-	-	11.0	
2432	Retired- Formerly Application Development		11.0	-	-	-	-	
2441	Software Quality Assurance	5.0	4.0	4.0	2.0	-	6.0	Deployment and ongoing support of MRTU.
2450	IS Support & Operations	40.0	34.0	60.0	1.0	-	61.0	
2451	IS Support & Operations - General	3.0	2.0	2.0	-	-	2.0	
2452	System Administration/DBAs	13.0	11.0	11.0	-	-	11.0	Deployment and ongoing support of MRTU.
2453	Data Center & Operations	7.0	7.0	14.0	-	-	14.0	
2455	Support Services			14.0	1.0	-	15.0	New department related to IT services insourcing.
2456	System Administration			11.0	-	-	11.0	New department related to IT services insourcing.
2373	Information Security	7.0	6.0	-	-	-	-	
2374	Physical Security	10.0	8.0	8.0	-	-	8.0	
2730	Program Office	8.0	9.0	10.0	-	(6.0)	4.0	



Cost Center	Area	Headcount, Approved Budget	2008 Adjusted Budget	FY2009 Headcount Base Budget	FY2009 Incremental Program FTEs	FY2009 Decremental Program FTEs	FY2009 Total Proposed FTE in O&M Budget	Description / Change
2500	VP of Operations	217.5	216.0	219.0	9.0	(8.0)	220.0	
2511	VP of Operations-General	1.5	2.0	2.0	-	-	2.0	
2571	Renewables Integration		-	-	2.0	-	2.0	Transfer of staff from elsewhere in organization for this new function.
2520	Grid Operations	98.0	92.0	92.0	5.0	-	97.0	
2521	Grid Operations-General	3.0	2.0	2.0	-	-	2.0	
2522	Real Time Operations	72.0	72.0	72.0	-	-	72.0	
2523	Scheduling	9.0	9.0	9.0	-	-	9.0	
2524	Outage Management	14.0	9.0	9.0	5.0	-	14.0	Network Modelers for full network model.
2530	Grid Operations Development	10.0	12.0	12.0	1.0	-	13.0	
2531	Grid Operations Development	3.0	5.0	5.0	-	-	5.0	
2251	Network Applications	7.0	7.0	7.0	1.0	-	8.0	Increase related to network model building, related to full network model/ MRTU.
2540	Market Services	56.0	56.0	57.0	1.0	-	58.0	
2541	Market Services-General	3.0	3.0	3.0	1.0	-	4.0	3. Sr Project Manager, Market Services (Market Quality System)
2542	Market Operations	15.0	13.0	14.0	-	-	14.0	
2543	Billing and Settlements	17.0	16.0	22.0	-	-	22.0	
2544	Settlement Projects	7.0	6.0	-	-	-	-	
2545	Market Information	14.0	18.0	18.0	-	-	18.0	
2550	Operations Support	44.0	46.0	48.0	-	-	48.0	
2551	Operations Support-General	2.0	1.0	3.0	-	-	3.0	
2552	Operations Data and Compliance	13.0	16.0	14.0	-	-	14.0	
2553	Operations Procedures and Training	10.0	11.0	11.0	-	-	11.0	
2554	Model & Contract Implementation	9.0	10.0	10.0	-	-	10.0	
2555	Operations Analysis	10.0	8.0	10.0	-	-	10.0	
2561	Reliability Coordination	8.0	8.0	8.0	-	(8.0)	-	WECC Staff no longer to be on ISO payroll effective January 2009.
2600	General Counsel, VP Of Legal Affairs	26.0	27.0	28.0	3.0	-	31.0	
2611	General Counsel	2.0	2.0	2.0	1.0	-	3.0	Additional counsel to reduce external legal counsel fees
2620	AGC Group	19.0	19.0	19.0	1.0	-	20.0	
2621	Asst. General Counsel-Corporate	3.0	3.0	3.0	-	-	3.0	
2631	Asst. General Counsel-Regulatory	11.0	5.0	5.0	1.0	-	6.0	Additional counsel to reduce external legal counsel fees
2641	Asst. General Counsel-Tariff	5.0	5.0	5.0	-	-	5.0	
2661	Paralegal and Office Administration		6.0	6.0	-	-	6.0	
2651	Asst Corporate Secretary	1.0	1.0	1.0	-	-	1.0	
2671	Mandatory Standards Compliance		2.0	3.0	1.0	-	4.0	Build out function. Three internal staff were employed from other departments, with 2 additional staff to be hired.
2372	Internal Audit	4.0	3.0	3.0	-	-	3.0	
2800	VP of External Affairs	38.5	39.0	40.0	-	-	40.0	
2811	VP of External Affairs-General	1.5	2.0	2.0	-	-	2.0	
2840	Customer Service and Industry Affairs	23.0	23.0	24.0	-	-	18.0	
2841	Customer Services and Industry Affairs	23.0	6.0	6.0	-	-	6.0	
2842	Customer Service		11.0	12.0	-	-	12.0	
2843	Stakeholder and Industry Affairs		6.0	6.0	-	-	6.0	
2820	Communications & Public Relations	8.0	8.0	8.0	-	-	8.0	
2821	Communications & PR-General	4.0	4.0	4.0	-	-	4.0	
2822	Information Products & Services	4.0	4.0	4.0	-	-	4.0	
2830	State and Federal Affairs	6.0	6.0	6.0	-	-	6.0	
2831	State Affairs	6.0	4.0	3.0	-	-	3.0	
2832	Regulatory Affairs		1.0	2.0	-	-	2.0	
2833	Federal Affairs		1.0	1.0	-	-	1.0	
2000	Other Compensation Adjustments	-	-	(23.0)	-	-	(23.0)	
11	Other (including vacancy factor)	-	-	(23.0)	-	-	(23.0)	
	Other unreconciled positions							
	Subtotal	545.0	545.0	562.0	27.0	(14.0)	575.0	
	Total with Capitalized Staff						581.0	
	Less:							
	Capitalized staff	(6.0)	(6.0)				(6.0)	
	LGIP	(5.0)	(5.0)				(6.0)	
	WECC	(8.0)	(8.0)				-	
	Total	526.0	526.0				569.0	

Compensation Structure

The 2009 compensation budget includes funding for staff base salaries, employee benefits and payroll taxes, other elements of the compensation structure such as overtime and incentive compensation, and other related costs such as relocation and tuition reimbursement. The budget also includes funding for 2009 salary adjustments for merit, and equity/market adjustments. These costs have been budgeted for each position.

ISO employee benefits are budgeted at 33% of salary costs to fund the benefits summarized in the table below. Management will enter contracts, the costs of which are primarily dependent on employee population levels and participation, with selected vendors to ensure these benefits are available to eligible employees.

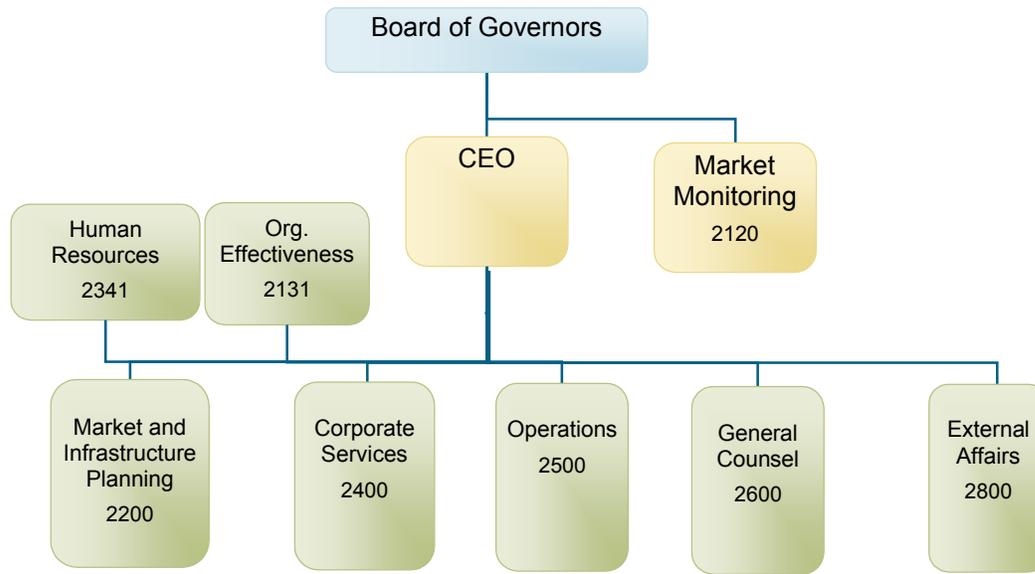
2009 Benefits Burden			
Health and Welfare Benefits Plans	2009 Premium	Comments	
Medical / Dental / Vision Insurance (Life/Accidental Death, LT Dis.)		Employer portion	
Unemployment (CAUI)		Employer paid	
Workers Compensation		3.7% on first \$7k (4.25% used)	
Other Misc. Programs		Group captive insurer	
TOTAL			
Health and Welfare Benefits - Burden Percentage			11%
Retirement Benefits Plans	2009 Estimates	Comments	
401(k) Retirement Contributions		Salary Based	
Social Security (FSOCTAX)		Salary Based	
Medicare (FMEDTAX)		Salary Based	
Executive Related Retirement Plans		Exec. Pension Restoration Prgm, 457(b), Supplemental Executive Retirement Program	
Retirees Medical Plan (Net Periodic Benefit)		Annual Expense	
TOTAL			
Retirement Benefits Plans - Burden Percentage			22%
Other Benefit Obligations	2009 Service Estimates	Comments	
Retirement / Administration Related Costs			
Other Misc. Benefits			
TOTAL			
Other Benefit Obligations - Burden Percentage			1%
2009 Estimated Premiums/Liabilities			
2008 Salaries			
2009 Salary Increase -	4.00%	2009 Salaries	
2008 Current Headcount		2009 Forecast Headcount	
2009 Benefits Burden Percentage - ESTIMATE			33%

The total compensation package provided to ISO employees also includes incentive compensation with actual payouts in the subsequent year based on individual and corporate performance⁵.

⁵ The budget assumes funding for payouts between the target and stretch level. Targeted payouts vary based on employee classifications as noted: 9% of base pay for individual contributors (and 150% of that level for stretch performance), 16% of base pay for managers/directors (and 150% of that level for stretch performance), and a maximum of 60% of base pay for Executives and up to 100% for CEO.

VII. ISO DIVISIONAL BUDGET OVERVIEWS

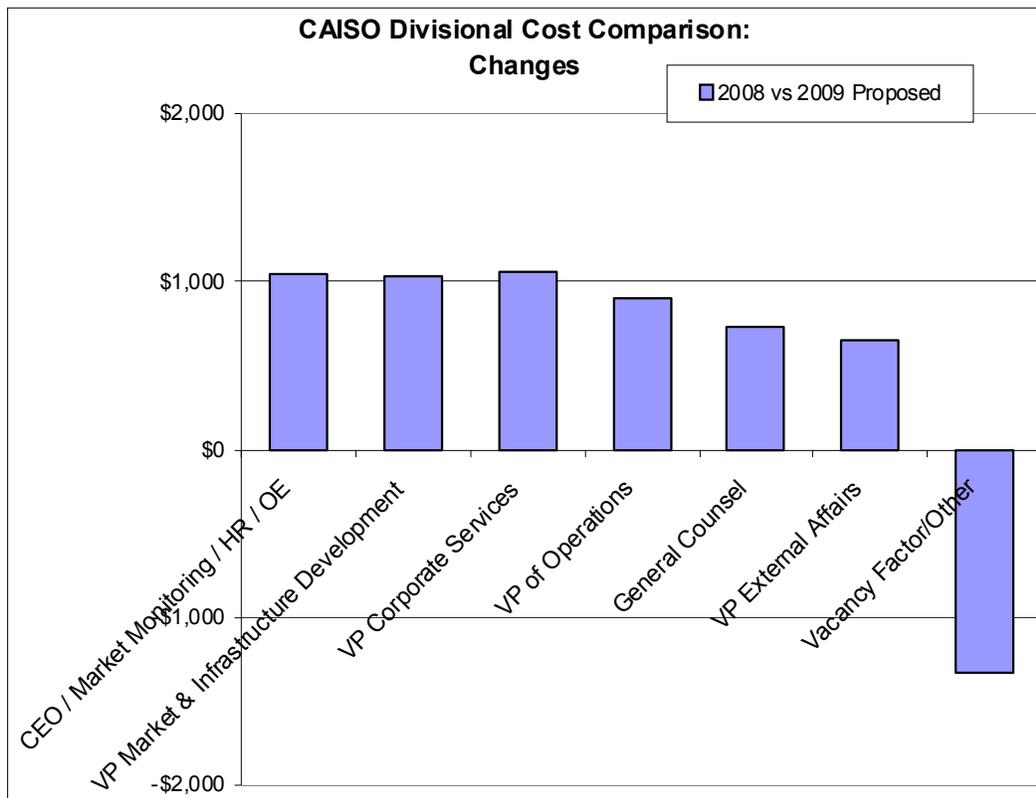
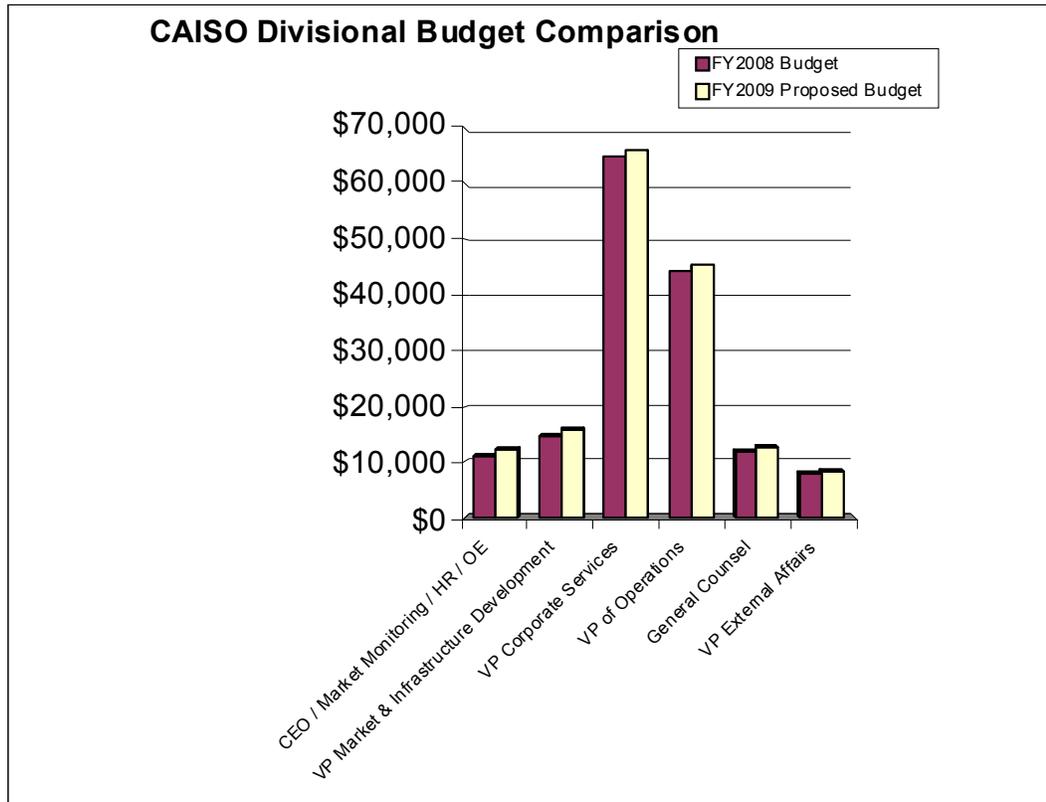
The following section provides detailed information on the proposed budgets for each ISO division, as shown on the organization chart below.



Each ISO Division provides a description of their departments, functions, staffing, and proposed budget, and incremental programs included in the proposed budget. A chart providing an overview of the proposed budget prefaces each discussion. Substantial additional budget detail supports the figures shown in this document. This section begins with a chart which overviews departmental costs and changes from the current year.

The Divisions are presented in the following order:

<u>Page</u>	<u>Division#</u>	<u>Division</u>
37.	2100	CEO (inc. Dept. of Market Monitoring, HR, Org. Effectiveness)
39.	2200	Market and Infrastructure Planning
41.	2400	Corporate Services
44.	2500	Operations
47.	2600	General Counsel
50.	2800	External Affairs



Divisional Budget Overview

2100 Chief Executive Officer Group

Division Description

The CEO Division includes the following departments:

- 2111 CEO-General
- 2131 Organizational Effectiveness
- 2120 Market Monitoring
 - 2121 Market Monitoring
 - 2122 Market Surveillance Committee
 - 2123 Monitoring and Reporting
 - 2124 Analysis and Mitigation
- 2340 Human Resources

Organizational Effectiveness is a new department within the Office of the CEO, and develops and implements programs designed to improve and facilitate the achievement of the organization's objectives, and is responsible for strategic planning, business process and quality, and enterprise risk management.

The Department of Market Monitoring (DMM)'s vision is to be a highly independent and internationally recognized industry leader in electricity market design, monitoring, and analysis.

The Human Resources department develops and implements effective "people" strategies and supporting initiatives that enable CAISO to achieve business objectives through the attraction and retention of highly qualified and skilled talent.

Division Changes and Workload

The CEO is responsible for the oversight and delivery of the strategic objectives set forth in the 2008-2012 Strategic Plan and the overall effectiveness of the organization.

Market Monitoring will be responsible for achieving the following goals from the 2008-2012 Strategic Plan:

Goal: Grid Resource Development

Subgoal: Robust and Transparent Electricity Markets

2.2.B Improve market monitoring capabilities as associated with new market design enhancements

Organizational Effectiveness will in 2009 continue to focus on improved processes and integration of risk analysis by building on existing Process Centered Management to improve cross-organizational collaboration and expanding enterprise risk management capabilities. In addition, the department plans to improve the integration of strategic considerations in the execution of key initiatives to ensure they align with corporate initiatives.

Organizational Effectiveness will be responsible for achieving the following goals from the 2008-2012 Strategic Plan:

Goal: Organizational Effectiveness

Subgoal: Maturity in Capabilities

3.2.A Evolve from Process Design to Process Centered Management

- 3.2.A Expand enterprise risk management capabilities
- 3.2.B Improve strategy execution

Human Resources will be responsible for achieving the following goals from the 2008-2012 Strategic Plan:

Goal: Organizational Effectiveness

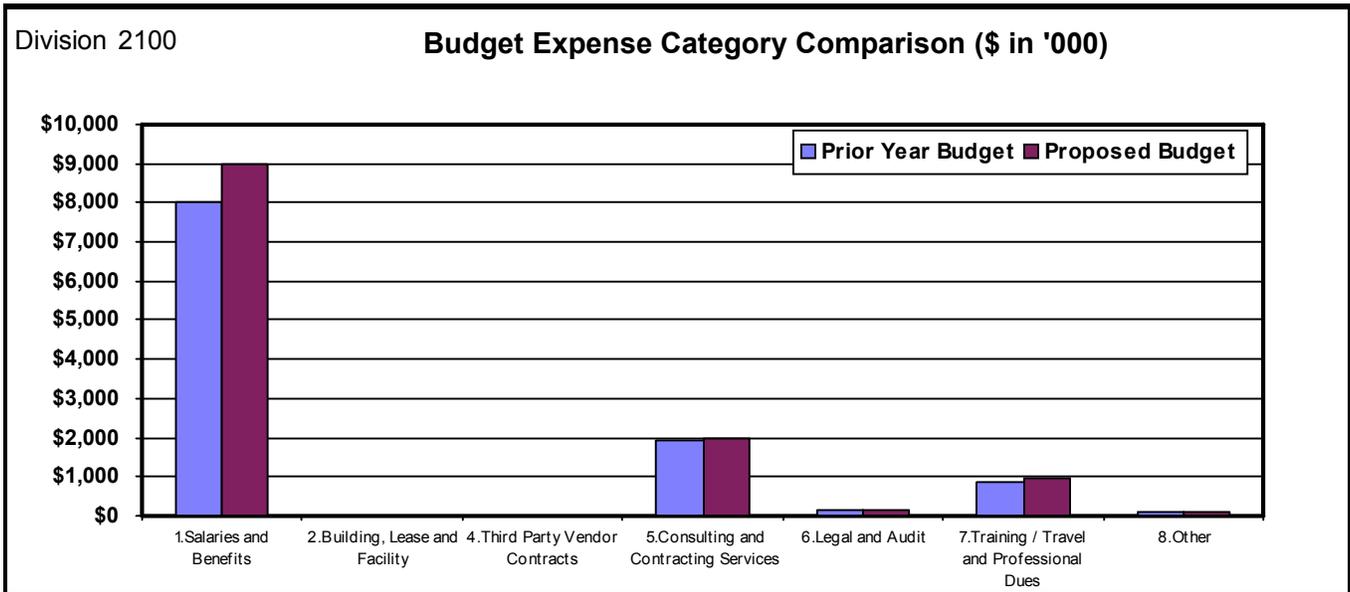
Subgoal: People Strategies

- 3.1.B Expand California ISO Academy
- 3.1.C Mature the ISO Talent Management Strategy: Develop a comprehensive career management model.
- 3.1.C Develop a Corporate Rotation Program for Professional Development
- 3.1.D Expand Corporate Internship Program
- 3.1.E Develop Global Recruitment Strategy

HR also has a number of departmental initiatives for 2009 including: (1) Oversight of internal and external MRTU Training and programs (2) Expand Corporate mentoring program. (3) Survey, analyze and modify compensation programs. (4) Re-evaluate competitive ranking of Benefit options. (5) Launch discussion and development of core competencies. (6) Define strategies to establish and promote ISO Brand. (7) Enhance Benefits education programs. (8) Promote health management and cost containment. (9) Launch Oracle Learning Management and i-Recruitment systems. (10) Launch, review and develop enterprise-wide job families and career path structures.

Discussion of Management Recommended Budget

The 2009 proposed budget of \$12.14 million compares with the 2008 budget of \$11.09 million, which is an increase of \$1.04 million or 9%. Staffing increases by 3 from 38 to 41, including two additional staff in Market Monitoring within the areas of Market Monitoring & Reporting and Analysis & Mitigation and one additional staff member within the area of Organizational Effectiveness. The Market Monitoring staff will: support core monitoring functions and initiatives, and (1) review and recommend market design initiatives and implementation of the monitoring requirements to support these initiatives (e.g., convergence bidding, scarcity pricing, demand response, capacity markets). (2) Respond to ad-hoc requests for DMM analyses and reports. (3) Develop the market simulation environment.



Divisional Budget Overview

2200 VP of Market and Infrastructure Development

Division Description

This Division includes the following Departments:

2211 VP Market and Infrastructure Development -General

2221 Region Transmission - North

2231 Region Transmission - South

2241 Grid Assets

2242 Generator Interconnections

2720 Market and Product Development

2721 Market and Product Development-General

2722 Market Design & Regulatory Policy

2723 Infrastructure Policy & Contracts

2751 Regional Market Initiatives

Market and Infrastructure Development was created in 2008 with the combination of the Planning & Infrastructure Development and Market Development and Program Management Divisions. The primary purpose behind the creation of this department was to establish a seamless and well coordinated market and infrastructure policy development up to the implementation process.

The Planning function is responsible for developing a forward looking, coordinated transmission plan that provides for full NERC/WECC compliance obligations as well as proactive infrastructure planning initiatives that facilitate a robust market, supporting the CPUC Resource Adequacy program and the implementation of MRTU, generator interconnection studies, renewable integration analysis, and other responsibilities including assessing feasibility of all Long-term CRRs, performing annual congestion studies as required by FERC Order 890, seasonal operating studies, maintaining operating procedure, perform required analysis for transmission and generation outage requests, seasonal local area operating assessments, supporting real time operations, providing planning and operational engineering/technical analysis, coordinating with surrounding control area operators in engineering issues.

Market and Product development is responsible for the design of proposed market rules (including stakeholder involvement and review, Board decision support, tariff development and software requirements definitions) for the MAP Enhancements including FERC mandated modifications (e.g. Convergence Bidding, Scarcity Pricing, expand functionality for demand response participation in MRTU, real-time dispatch and pricing rules for constrained-on generation, and decremental bidding rules). On-going responsibilities in regulatory contracts for negotiation, drafting, and administration of over 700 ISO contracts, providing subject matter expertise and support on state initiatives such as greenhouse gases, engage in CPUC proceedings on a series of Resource Adequacy and Demand Response topics, providing subject matter expert support on regulatory support for issues such as Locational Capacity Requirements, loss of load studies for planning reserves, and import allocation, and technical support to Market Services on CRR's and Market Operations on full network model capabilities.

The Department of Regional Market Initiatives is responsible for regional coordination, including the conceptual development and promulgation of regional regulatory and market related policy initiatives from inception through implementation. This includes consideration, interaction, coordination and cooperation with CAISO stakeholders and market participants, including external Balancing Authorities, other regional entities, and state and federal regulatory

agencies.

Division Changes and Workload

The Division will be responsible for the following goals from the 2008-2012 Strategic Plan:

Goal: Grid Resource Development

Subgoal: Infrastructure Guided by Price Transparency

- 2.1.A Maintain long-term transmission rights feasibility through the transmission planning process
- 2.1.B Reform the Large Generator Interconnection Process (LGIP)
- 2.1.C Establish framework for enabling competition between Generation, Transmission, & Demand Response in the transmission planning process

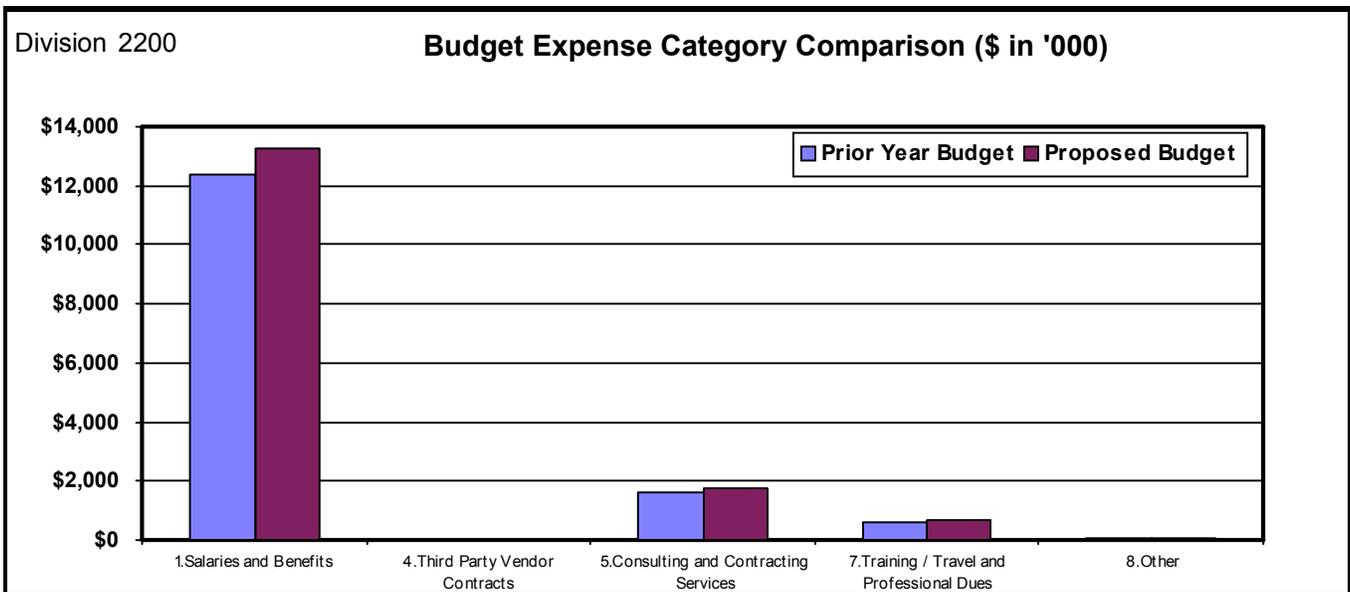
Subgoal: Robust and Transparent Electricity Markets

- 2.2.B Implement market elements for Long-Term Resource Adequacy
- 2.2.B Increase demand participation in the ISO markets
- 2.2.B Rank and develop short list of value-added market enhancements
- 2.2.B Improve market monitoring capabilities as associated with new market design enhancements
- 2.2.C Enhance regional coordination and facilitate improvement

Market and Product Development will continue to focus on enhancements (known as the MAP initiative) to the MRTU platform during 2009.

Discussion of Management Recommended Budget

The 2009 proposed budget of \$15.78 million compares with the 2008 budget of \$14.75 million, which is an increase of \$1.03 million or 7%. The increase reflects salary/benefit cost adjustments for 2009 of 4%, and an increase in budgeted staffing of 5, from 71 to 76. This includes one Communication Manager for Transmission Planning, one transmission engineer, and 3 additional staff in the Market and Product Development group, as follows: one additional staff in MPD for MRTU support, one Demand Response Engineer and one Renewable & Environmental Policy Engineer.



Divisional Budget Overview

2400 VP of Corporate Services

Division Description

This Division includes the following Departments:

VP Corporate Services Direct Report Cost Centers

- 2351 Facilities
- 2361 Procurement and Vendor Management
- 2411 Corporate Services - General
- 2412 Asset Management

2310 CFO & Treasurer

- 2311 CFO General
- 2321 Accounting
- 2331 Treasury, Finance & Credit

2420 Information Technology Projects Group

- 2421 IT Projects
- 2431 Application Development
- 2441 Software Quality Assurance

2450 Information Technology Support and Operations

- 2373 Information Security
- 2374 Physical Security
- 2451 IT Support and Operations - General
- 2452 System and Database Administration
- 2453 Data Center & Operations

2460 IT Strategy & Support

- 2454 Architecture and Systems Engineering
- 2461 IT Strategy & Support- General
- 2462 EMS Information Technology
- 2463 Operations Information Technology
- 2464 Corporate Systems
- 2465 Critical Systems

2730 Program Office

- 2731 Program Management Office (PMO)
- 2741 MRTU Program

Corporate Services encompasses Information Technology, Accounting, Treasury, Finance & Credit, Facilities and Procurement. IT is the largest function within Corporate Services playing a central role in providing reliable, low-cost, efficient infrastructure, processes, and systems to the CAISO enterprise. These processes and systems are critical to CAISO's ability to provide world class services and innovation through technology resulting in the delivery of exceptional system availability and new functionality in accordance with the 2008-2012 Strategic Plan. The Accounting department is responsible implementing internal control policies, general accounting and financial reporting, and payables/receivables. Treasury, Finance & Credit Department is responsible for Credit Management, investments, debt, financial administration of capital projects and financial planning/budgeting/rates. The Facilities Department is responsible for providing and managing a highly reliable building infrastructure that supports a safe,

efficient and comfortable work environment. Procurement and Vendor management supports the organization by purchasing goods and services through competitive vendor selection and cost management.

This Division's goals are set around Organizational Excellence focusing on continuous improvement with particular regard to processes, systems and innovative resource management. This approach results in higher productivity and effective cost control.

Division Changes and Workload

This Division is directly responsible for two Corporate Strategic goals outlined in CAISO's 2008-2012 Strategic Plan, and supports the achievement of other corporate goals.

Goal: Organizational Effectiveness

Subgoal: Enhance Organizational Effectiveness

3.2.A Increase measurement capabilities by implementing activity-based accounting

3.2.A Mature technology capabilities

3.2.A Further develop program management capabilities

Subgoal: Superior Customer Service

3.3.C Expand customer portal

Subgoal: People Strategies

3.1.A Construct a new facility to meet essential physical security needs and provide a functional and pleasant work environment

Goal: Grid Resource Development

Subgoal: Robust and Transparent Electricity Markets

2.2.A Launch the MRTU program

2.2.A Monitor performance and resolve issues post MRTU launch

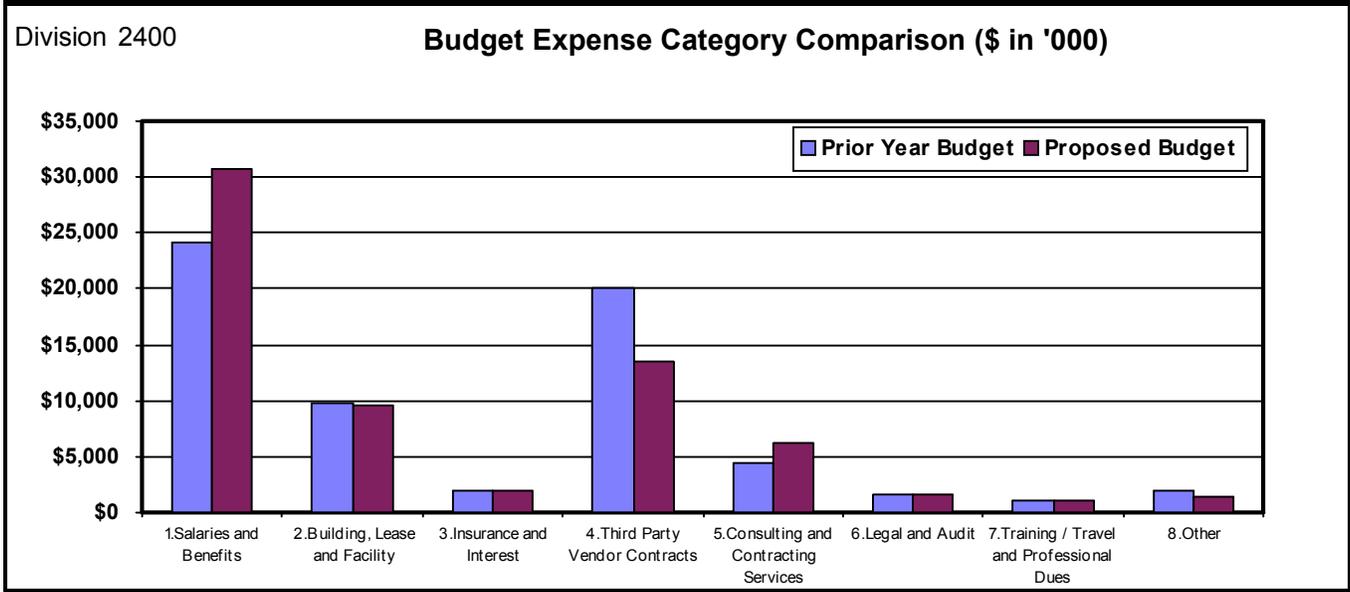
2.2.A Enhance MRTU communication and readiness efforts

Discussion of Management Recommended Budget

The 2009 proposed budget of \$66.01 million compares with the 2008 budget of \$64.95 million, which is an increase of \$1.06 million or 2%. The budget, apart from salary adjustments, is essentially flat from 2008 to 2009 while absorbing several million dollars of upward pressure in 2008 from MRTU maintenance contracts that will become part of the IT operational budget.

Staffing increases by 8 apart from the insourcing of IT services, from 154 to 162, with the additional costs offset by reductions in Third Party Vendor contracts. The new staff positions include: one in Accounts Payable related to increased LGIP workload, and seven staff related to MRTU Benchstrength in IT including two staff in Software Quality Assurance, one Senior Systems Support (System Administration/DBAs), and four in Critical Systems.

Additionally, 28 additional staff are related to the in-sourcing of IT services previously provided by an external firm. This conversion resulted in the reallocation of costs from "Third Party Vendor Contracts" to Salaries & Benefits, and to a lesser extent, associated costs such as training and travel.



Divisional Budget Overview

2500 VP of Operations

Division Description

This Division includes the following Departments:

- 2511 VP-Grid Operations-General
- 2571 Renewable Integration
- 2520 Grid Operations Group
 - 2521 Grid Operations-General
 - 2522 Real-Time Operations
 - 2523 Scheduling
 - 2524 Outage Management
- 2530 Grid Operation Development
 - 2531 Grid Operations-General
 - 2251 Network Applications
- 2540 Market Services Group
 - 2541 Market Services-General
 - 2542 Market Operations
 - 2543 Billing and Settlements
 - 2545 Market Information
- 2550 Operations Support
 - 2551 Operations Support-General
 - 2522 Operations Data and Compliance
 - 2553 Operations Procedures and Training
 - 2554 Model & Contract Implementation
 - 2555 Information Engineering & Analysis
 - 2561 Reliability Coordination (2008 Only)
 - 2571 Renewables Integration

The main mission of the department is the reliable operation of the power grid and real-time operations support. For 2009, the Grid Operations Division will be comprised of Grid (Real Time) Operations (Folsom & Alhambra); Market Services and Operations Support. Reliability Coordination is scheduled to be operated directly by WECC in 2009. The Renewable Integration department is a new addition to Operations created mid-year 2008.

The grid is undergoing numerous changes including an increasing number of renewable and intermittent resources, increasing levels of imports and exports, and emphasis on the development of demand responsive resources. In addition, new applicable reliability rules and the relationship of those rules with the California ISO's organized market rules may impact how we reliably operate the grid. Through the use of advanced tools, the Operations Division will proactively manage the changing profile and characteristics of the grid. Development of a state of the art control center staffed by industry leading professionals will enable the California ISO to provide a transparent view into the status of the real time grid and market. The new control center will apply advanced technology and tools for the operators to proactively manage grid conditions and solve potential reliability problems well in advance of real time. Combined with the use of well defined and efficient business and operating processes and controls, the Operations Division will manage grid reliability in a transparent and consistent manner that minimizes the cost of delivering energy to California consumers.

Vision of Excellence

The Operations Division will become a center of excellence in both grid and market operations by further developing a professional staff highly skilled in the use and application of the advanced technology and tools necessary to reliably operate the grid and facilitate efficient markets in complex environments. The Operations Division will strive to operate forward and real time markets in a transparent, consistent, and efficient manner. Market Services will support the implementation of market enhancements that facilitate this vision and will reduce the settlement timeline to achieve efficient market outcomes. The Operations Division will further develop and implement cross training, market based training, forward analysis simulation training, and individual career progression programs in order to develop our people to operate in a more complex, technical, and challenging operating environment.

Division Changes and Workload

The Division will be responsible for the following goals from the 2008-2012 strategic plan:

Goal: Excellence in Grid and Market Operations

Subgoal: Implement Advanced Analysis Tools and Control Room Technologies

1.0.B Advanced tools implementation

Subgoal: Implement Renewable Resource Integration Projects

1.0.C Renewable Resources

Subgoal: Institute Actions to Achieve Efficient Cash Clearing Timeframe

1.0.D Payment Acceleration

Grid Resource Development

Subgoal: Infrastructure Guided by Price Transparency

2.1.D Ensure maximum delivery of renewable resources with transmission additions and upgrades

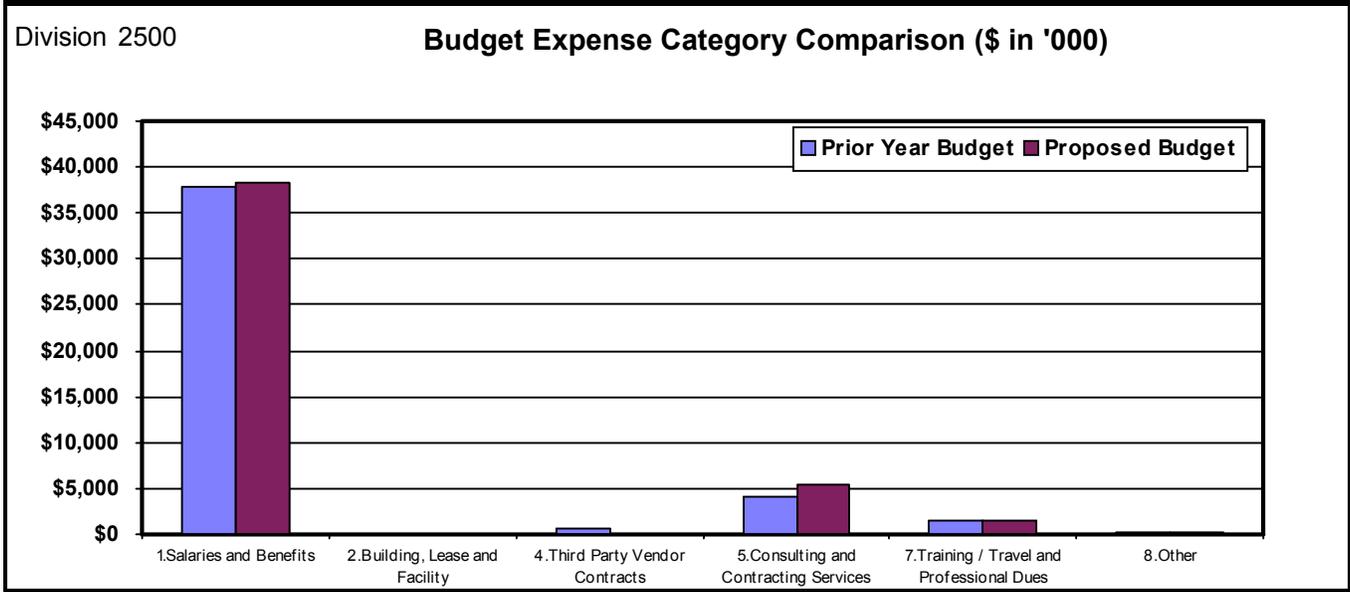
Organizational Effectiveness

Subgoal: People Strategies

3.1.A Upgrade current control rooms and design/occupy a new one

Discussion of Management Recommended Budget

The 2009 proposed budget of \$45.26 million compares with the 2008 budget of \$44.35 million, which is an increase of \$0.91 million or 2%. 2009 Staffing of 220 compares with the 2008 budgeted staffing of 216, a net increase of 4 staff. The elimination of the Reliability Coordination function reduces staffing by 8 (and total departmental costs of about \$2 million) and was offset by an increase in 12 staff for Renewables Integration, Grid Operations and Market Services. The budget increase also includes the 2009 salary adjustments / merit increases. There is an increase of Consulting of approximately \$450,000 in Market Operations.



Divisional Budget Overview

2600 General Counsel, VP, Corporate Secretary

Division Description

This Division includes the following Departments:

2611 General Counsel-General

2620 AGC Group

2621 Corporate Counsel (Asst. General Counsel-Corporate)

2631 Regulatory Counsel (Asst. General Counsel-Regulatory)

2641 Tariff and Tariff Compliance (Asst. General Counsel-Tariff and Tariff Compliance)

2661 Paralegal and Office Administration

2651 Asst Corporate Secretary

2671 Mandatory Standards Compliance

2372 Internal Audit

Vision of Excellence

The General Counsel Division has adopted the following statement to describe the organization that we are striving to become: A highly skilled, highly ethical team of professionals universally sought after by our (internal) customers for our expertise, sound judgment, and ability to solve problems and add value in the legal and other areas of the Company's business.

The Associate General Counsels are responsible for corporate, regulatory, and tariff matters. The Corporate Counsel department is responsible for negotiating and drafting regulatory contracts, key vendor contracts and other agreements, as well as counseling management on contracts, corporate, HR, employment, intellectual property, finance, tax, governance, and other general legal matters including conflicts and ethics advice. The Regulatory Counsel department has oversight over Legal/Regulatory functions (including Tariff amendments), regulatory matters, and litigation. The Tariff and Tariff Compliance department is primarily responsible for tariff interpretations, tariff maintenance (including maintenance of an electronic tariff), and tariff compliance. The Assistant General Counsel coordinates Board related matters including communications, setting meeting agendas, and reviewing and coordinating the submission of Board documents. The Paralegal and Office Administration Department is responsible for providing paralegal, administrative assistant and technical assistant support to the Legal Department. Mandatory Standards Compliance is a new department implemented during 2008. Mandatory Standards Compliance performs the assessment of impacts and ensures business unit readiness for the new and revised standards impacting the business units. The Internal Audit business unit is responsible for the development and implementation of the Annual Audit Schedule, auditors plan and various internal audits in accordance with CAISO procedures and standards for the professional practice of internal audits.

Division Changes and Workload

The Division will be responsible for achieving the following goals from the 2008-2012 strategic plan:

Excellence in Grid and Market Operations

1.0.A Compliance Monitoring Framework

Further, GC Division Initiatives in 2009 include, among other things, the following:

Obtain Regulatory Approval for ISO Policy Initiatives

1. Develop and Support Key Regulatory Filings**Promote Effective Compliance**

1. Enhance the Effectiveness of the Compliance Program
2. Develop Training Program and Implement Business Process Re IP Awareness

Optimize Legal Costs

1. Implement Best Practices to Optimize Legal Costs

Pursue Corporate Governance "Best Practices"

1. Corporate Governance Training
2. Implement Board Standing Order Process
3. Implement Electronic Tracking and Searching of Corporate Records
4. Enhance Record Retention Policies

Strengthen the Legal Team

1. Establish and Implement Better Tools and Processes for Legal Knowledge Management
2. Implement Internal Training Program for the GC Division

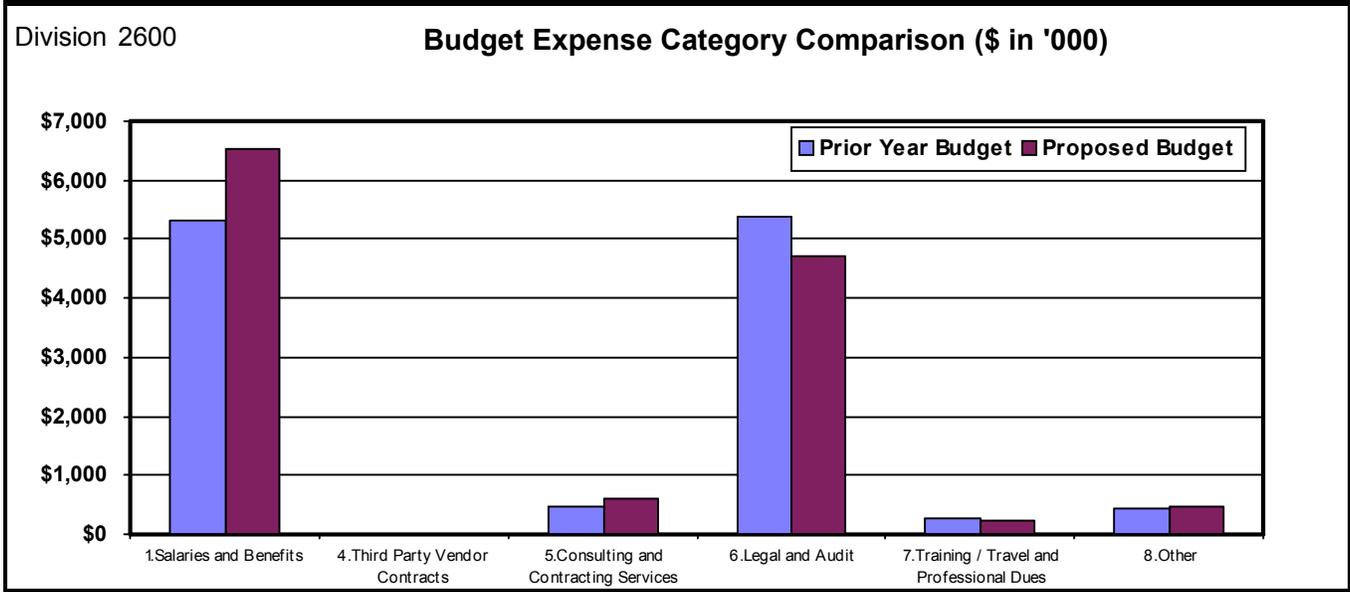
In addition to the GC Division's own initiatives, the GC Division supports many of the initiatives sponsored by other departments. Specific activities in 2009 will include among other things, ongoing legal support for MRTU and market enhancements such as convergence bidding, scarcity pricing and integrating demand response opportunities; GMC; design of long-term capacity pricing mechanism; transmission planning initiatives; compliance with mandatory compliance standards; and greenhouse gas and renewable energy policies.

Discussion of Management Recommended Budget

The 2009 proposed budget of \$12.59 million compares with the 2008 budget of \$11.86 million, which is an increase of \$0.73 million or 6%. The increase is related to increases in salaries and benefits for 2009 merit increases, and for additional staff. The 2009 staffing of 31 compares with the 2008 budgeted staffing of 27, an increase of 4 staff. Three staff positions are newly created, while one is a transfer from another Division, and include 2 positions for Mandatory Standards compliance matters, and 2 additional staff counsel to facilitate a decrease in external counsel fees.

- 1 Staff in Mandatory Standards Compliance department (cost center 2671), both newly created positions.
- 1 Staff Counsel (in AGC-Regulatory, cost center 2621), a newly created position.
- 1 Senior Counsel (in General Counsel, cost center 2611), a newly created position.

One additional staff was transferred from another CAISO Division to join Mandatory Standards Compliance department (cost center 2671).



Divisional Budget Overview

2800 VP of External Affairs

Division Description

This Division includes the following Departments:

2811 VP of External Affairs-General

2820 Communications & Public Relations

2821 Communications & Public Relations-General

2822 Information Products & Services

2830 Government Affairs Group

2831 State Affairs

2832 Regulatory Affairs

2833 Federal Affairs

2840 Customer Service and Industry Affairs Dept

2841 Customer Services and Industry Affairs

2842 Customer Service

2843 Stakeholder and Industry Affairs

Vision of Excellence

The External Affairs Division will strive for excellence by building high quality collaborative relationships, providing timely and accurate information, fostering value added customer service, anticipating issues and addressing them before they arise, and advancing objectives benefiting consumers and the electricity industry. Achieving these objectives requires collaboration across the California ISO to achieve timely resolution of customer issues, improved communication with stakeholders, and effective representation of the organization before state agencies, regional organizations, and federal energy regulators.

The Communications & Public Relations Department is responsible for the Corporate Communications functions of CAISO, including internal and external communications and media relations, including routine electronic communications with the external public and developing new information products and services that add value to customer and stakeholder businesses.

The Government Affairs department consists of State, Regulatory and Federal Affairs, and these departments are responsible for overseeing interactions between the State Legislature and Governor's Office regarding matters that could impact CAISO, building and maintaining relationships with key regulatory agencies (including the California Public Utilities commission, the California Energy Commission, and the California Air Resources Board), and overseeing any federal legislative and regulatory matters that could impact CAISO.

The Customer Services and Industry Affairs department is the primary business interface between CAISO and its clients and stakeholders. Included within the CS&IA department are the Customer Services department and the Stakeholder and Industry Affairs department.

Division Changes and Workload

The significant 2009 initiatives supporting the 2008-2012 Strategic Plan are listed below. The Division's workload in 2009 is being impacted by:

- An increase in the involvement related to MRTU activities.

- An increase in monitoring and engaging on issues related to Renewables, greenhouse gas, once-through-cooling and demand response
- External Affairs will also continue to enhance relationships with stakeholders by consistently delivering quality client care, executing improvements the stakeholder process, managing the BPM change process and proactively communicating with external entities.

The Division will be responsible for the following goals from the 2008-2012 Strategic Plan:

Goal: Grid Resource Development

Subgoal: Alignment with State and Federal Policies

- 2.3.A Integrate state and federal environmental policies with ISO wholesale energy markets
- 2.3.A Identify obstacles to market participation by combined heat and power
- 2.3.B Implement Rebuttable Presumption

Goal: Organizational Effectiveness

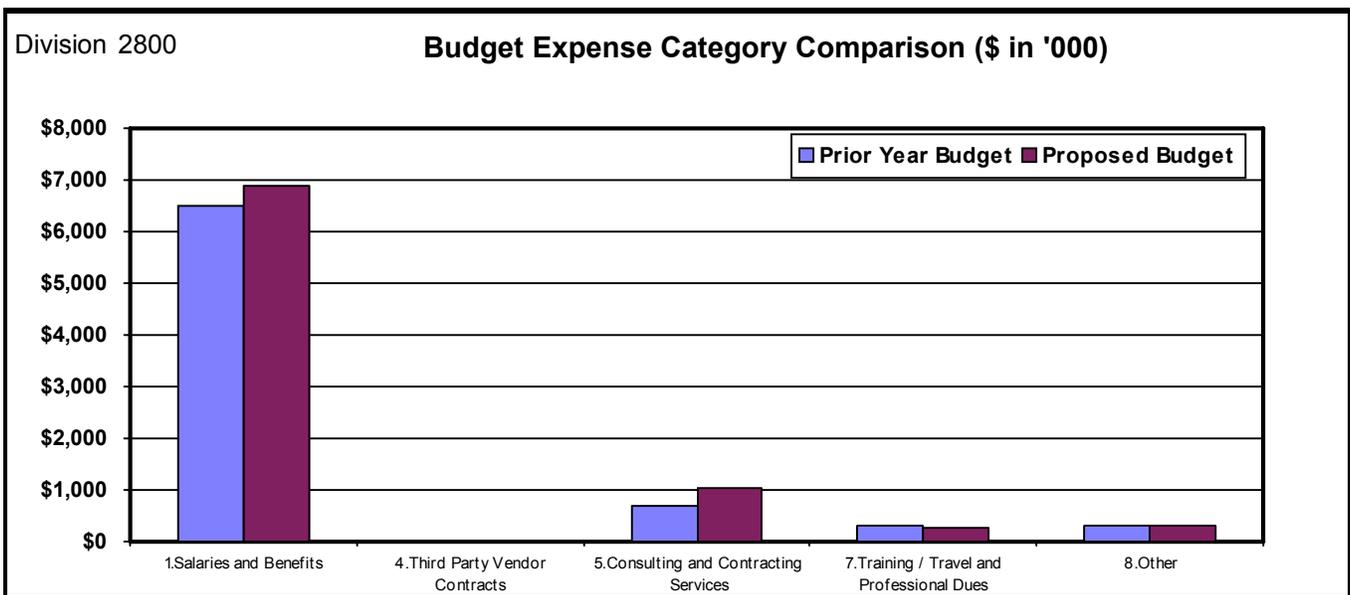
Subgoal: Superior Customer Service

- 3.3.A Expand customer issue resolution process
- 3.3.B Enhance Stakeholder Process

Timelines of Issue Resolution - External Affairs continues to enhance the functionality of the corporate issues tracking tool and improve the ISO's responsiveness to customer issues.

Discussion of Management Recommended Budget

The 2009 proposed budget of \$8.5 million compares with the 2008 budget of \$7.85 million, which is an increase of \$0.65 million or 8%. The increase allows for salary/merit increases, additional consulting of \$360,000 for anticipated needs related to MRTU support and other 2009 priorities. These increases are offset in part by a reduction in other costs of \$75K. 2009 Staffing of 40 compares with the 2008 budgeted staffing of 39, an increase of 1 staff in the Customer Service area.



VIII. DEBT SERVICE

Current Debt Service

Debt service budgeted for inclusion in the 2009 Revenue Requirement includes principal and interest on the ISO's outstanding Series 2008 bonds. These bonds were issued in June 2008 to retire previously outstanding Series 2000C, Series 2000AB, and Series 2007AB bonds, and to provide new money to fund 2008/2009 capital expenditures. These bonds will be retired in full by February 2014. The Series 2008 bonds are have a fixed interest rate that varies by maturity (a portion of the bonds are payable in each year through 2009-2014), as illustrated in the following table:

<u>Maturity Date</u>	<u>Principal</u>	<u>Interest Rate (Coupon)</u>	<u>Yield</u>	<u>CUSIP</u>
2009	\$31 million	4%	2.20%	13033WL92
2010	\$39.1 million	5%	2.74%	13033WM26
2011	\$42.25 million	5%	3.10%	13033WM34
2012	\$25.13 million	5%	3.33%	13033WM42
2013	\$36.025 million	5%	3.45%	13033WM59
2014	<u>\$23.465 million</u>	5%	3.58%	13033WM67
Total	\$196.97 million			

The bonds were issued at a premium, so the interest rates exceed the yield (and corresponding net cost to the ISO) of the bonds. The annual debt service interest payments include interest at the coupon rate.

Anticipated Future Bond Offerings

In 2009, the ISO anticipates issuing debt to finance a planned new facility in Folsom (on Iron Point Road) on land owned by the ISO. The 2009 Revenue Requirement excludes debt service costs related to that planned bond offering, as interest carrying costs in 2009 would be funded from the proceeds of the offering (as capitalized interest).

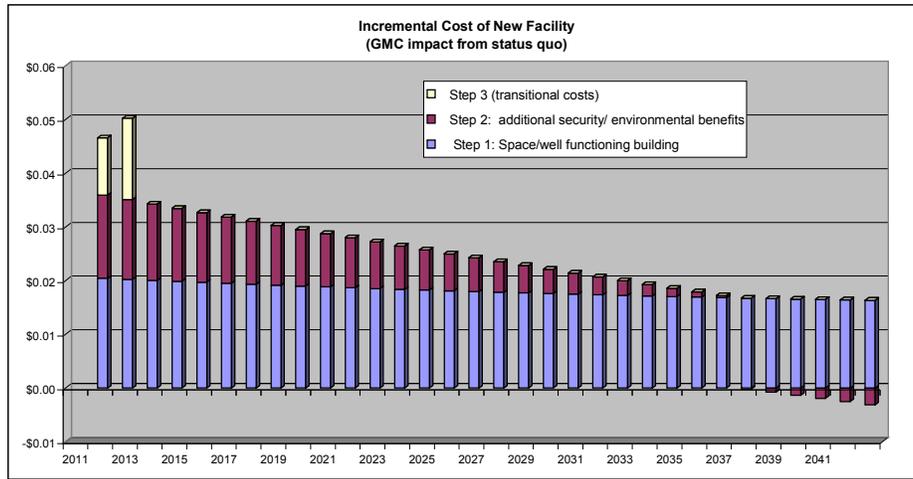
The ISO will prepare a detailed financing plan by early 2009, to be followed by a Section 204 application for authorization of the bond issuance with FERC. The ISO anticipates executing the bond offering during the second quarter of 2009. The structure of the bonds is anticipated to be traditional fixed rate debt, with a term of 30 years. Debt service on the bonds would ultimately replace the lease payments the ISO makes on its current facilities. Because of uncertainty in the bond markets due to the ongoing financial crisis, interest rates are likely to be higher than previously anticipated, but the ISO will monitor conditions and select an appropriate time for issuance.

Management has prepared a financial projection of the total cost of ownership for the planned new Iron Point Road facility versus the alternative of bringing the current leased facilities to the required level of service and security. The costs of rehabilitating the existing facilities are substantial, and represent an incremental cost above the “status quo” of the current lease obligations.

With the use of bond proceeds to fund construction, and deferral of debt service costs until building occupancy in 2011, there is no incremental impact of the new building on GMC rates until 2011. From 2011 forward, the financial impact from the baseline “status quo” lease cost (of approximately \$2.8 million in 2011) consists of three components:

Component	Description	Impact on GMC
1	Costs for additional space / well-functioning facility that would be incurred to retain and remodel existing space, and lease new space near the current Folsom buildings.	2 cents
2	Costs for enhanced security, environmental benefits of new building	Average of ½ cent per year over 30 years. Maximum of 1.8 cents (in 2011).
3	“One time” transition costs (lease payments on existing space AND mortgage on new building during 2011/2012)	1.1 to 1.5 cents in 2011/2012
	Total 2011-2013 maximum GMC impact	5.3 cents

The annual impact on the GMC rate and the Revenue Requirement is illustrated by year in the charts below.



IX. OVERALL REVENUE REQUIREMENT AND UNBUNDLED GRID MANAGEMENT CHARGE ("GMC") CALCULATION

ISO costs are recovered through separate GMC charges to the users of the services provided by the ISO. The existing rate structure will be in effect until MRTU implementation. Thereafter, the MRTU compliant rate structure, filed with FERC in early 2008, will be in effect. Service categories and billing determinants for the pre-and post MRTU portions of 2009 are listed on the following page.

Rate Calculation

The rate for each service category is calculated as follows:

$$\frac{\text{ISO Costs Allocated to Service Category}}{\text{Billing Determinant Volume}} = \text{GMC Rate}$$

Costs for Each GMC Service Category

The numerator for the above equation has been determined by summing CAISO costs for each service category. Such costs include:

- Operating & Maintenance costs
- Debt service costs
- Cash funded capital / project expenditures
- Miscellaneous Revenues and Expense Recoveries
- Operating & Capital Reserve Account Credit

Cost allocation support has been posted to the ISO website.

Service Categories and Related Billing Determinants-2009 Pre MRTU

The service categories and billing determinants for the pre-MRTU 2009 GMC service categories are unchanged from 2008:

Pre-MRTU GMC Rate Structure Function, Rate Name, Bill Determinant and Charge Code Number			
Function	Rate Name	Bill Determinant	Charge Code
Core Reliability Services	CRS-Demand (peak)	Monthly NCP HE07 – HE 22	4501
	CRS-Demand (off-peak)	Monthly NCP all other hours	4502
	CRS-Energy Export	MWhs of exports	4503
CRS/ETS	CRS/ETS-NE – Mohave Energy Export	MWhs of Mohave exports to Nevada Power and SRP	4504
Energy Transmission Services	ETS-Net Energy	MWhs of Metered Load	4505
	ETS-Uninstructed Deviations	MWhs of net uninstructed deviations	4506
Forward Scheduling	FS	Count of hourly schedules	4511
	FS-Inter SC trades	Count of hourly trades	4512
	FS-PGAB Inter-SC trades	Count of hourly trades for PGAB	4513
Congestion Management	CONG	MWh of net Hour Ahead Final Interzonal flows	4522
Market Usage	Purchases and sales of Ancillary Services (Day Ahead and Hour Ahead)	MWhs	4534
	Instructed Energy (Real Time)	MWhs	4535
	Net Uninstructed Deviations (Real Time)	MWhs	4536
Settlements, Metering, and Client Relations	SMCR	Monthly customer charge	4575

Billing Determinants Upon MRTU Implementation

The billing determinants for the rate structure upon MRTU effectiveness are as follows:

GMC Rate Structure Under MRTU			
Function, Rate Name, Bill Determinant and Charge Code Number			
Function	Rate Name	Bill Determinant	Charge Code
Core Reliability Services	CRS-Demand (peak)	Monthly NCP HE07 – HE 22	4501
	CRS-Demand (off-peak)	Monthly NCP all other hours	4502
	CRS-Energy Export	MWhs of exports, excluding exports on TORs	4503
Energy Transmission Services	ETS-Net Energy	MWhs of Metered Control Area Load, excluding Load on TORs	4505
	ETS-Uninstructed Deviations	MWhs of Uninstructed Imbalance Energy netted over the Settlement Interval (except UIE associated with PIRP)	4506
CRS/ETS	TOR	Metered Control Area Load MWhs on TORs	4508
Forward Scheduling	FS	Count of hourly schedules (including Awarded RUC schedules)	4511
	FS-Inter SC trades	Count of hourly trades (including trades of IFM uplift obligations)	4512
	FS-PGAB Inter-SC trades	Count of hourly trades for PGAB	4513
Market Usage	Purchases and sales of Ancillary Services	Day Ahead and Hour Ahead Scheduling Process and Real Time MWhs	4534
	Instructed Energy (Real Time)	MWhs of IE, no longer includes UIE1	4535
	Net Uninstructed Deviations, (Real Time)	MWhs of Uninstructed Imbalance Energy netted over the Settlement Interval (except UIE associated with PIRP)	4536
	Forward Energy	MWhs of net Energy purchases or sales in Day Ahead	4537
ETS/MU	Monthly netted deviations – PIRP	MWhs of Uninstructed Imbalance Energy netted over the month for PIR	4546
Settlements, Metering, and Client Relations	SMCR	Monthly customer charge	4575

Revenue Requirement Summary and GMC Rates (pre and post MRTU)

The GMC rates that result from the budget and other assumptions in this document follow:

FY2009 Revenue Requirement and Rates Detail
\$ in 000's

	FY2008 Budget	FY2009 Proposed Budget	Change	% Change
Revenue Requirement				
Core Operating & Maintenance Budget	\$151,954	\$155,877	\$ 3,923	2.6%
Add: LGIP Program	\$701	\$866		
Total Gross O&M	\$152,655	\$156,743	\$ 4,087	2.7%
Financing Budget:				
Subtotal, Financing Collection	59,520	59,373	\$ (147)	-0.2%
Capital / Project Funding	8,500	-		
Subtotal, Revenue Requirement Prior to Credits	220,675	216,116	\$ (4,559)	-2.1%
Less: Expense Recovery Budget:				
Interest Earnings	(\$2,205)	(2,590)		
Misc. Revenues	(345)	(356)		
Cost Recovery: LGIP Program	(968)	(1,195)		
COI Path Operator Fee	(2,000)	(2,000)		
WECC Reimbursement/NERC Reimbursement	(2,297)	-		
Subtotal, Expense Recovery Budget	(7,814)	(6,141)	\$ 1,674	-21.4%
Subtotal, Revenue Requirement before Revenue Credit	\$212,861	\$209,975	\$ (2,886)	-1.4%
Revenue Credit From Operating & Capital Reserve	(21,226)	(16,997)	\$ 4,229	-19.9%
Total Revenue Requirement	\$191,635	\$192,978	\$ 1,343	0.7%

Note 1

FY2009 Revenue Requirement and Rates Detail
\$ in 000's

PRE-MRTU

		FY2008 Budget	FY2009 Budget	Change	% Change
Pro Forma Net Revenue Requirements by Service (\$ in '000)					
4501	Core Reliability Services - Demand (peak)	\$ 32,245	\$ 33,811	\$ 1,566	5%
4502	Core Reliability Services - Demand (off-peak)	\$ 1,075	\$ 959	\$ (117)	-11%
4503	Core Reliability Services - Energy Export	\$ 7,425	\$ 8,565	\$ 1,140	15%
4505	Energy Transmission Services- Net Energy	\$ 70,558	\$ 75,298	\$ 4,740	7%
4506	Energy Transmission Services- Deviations	\$ 12,154	\$ 12,991	\$ 836	7%
	Other 2004 GMC Settlement Related Collections				
4511-4513	Forward Scheduling	\$ 8,952	\$ 10,222	\$ 1,269	14%
4522	Congestion Management	\$ 16,300	\$ 13,651	\$ (2,649)	-16%
4534-4536	Market Usage	\$ 42,010	\$ 36,564	\$ (5,446)	-13%
4575	Settlements, Metering, Client Relations	\$ 915	\$ 918	\$ 3	0%
		\$ 191,635	\$ 192,978	\$ 1,343	1%

Billing Determinant Volume Forecast

4501	Core Reliability Services - Demand (peak): NCP - MW-months	445,518	459,376	13,858	3%
4502	Core Reliability Services - Demand (off-peak): NCP - MW-months	22,512	19,734	(2,778)	-12%
4503	Core Reliability Services - Energy Export: MWh of exports	14,202,455	11,519,637	(2,682,818)	-19%
4505	Energy Transmission Services- Net Energy: MWh of Load	253,658,530	248,648,095	(5,010,435)	-2%
4506	Energy Transmission Services- Deviations: MWh of net UIE	12,300,654	12,490,506	189,852	2%
4511-4513	Forward Scheduling: number of hourly schedules and Awarded AS bids	11,057,905	10,351,579	(706,326)	-6%
4522	Congestion Management: MWh of net HA scheduled interzonal flows	142,807,959	156,784,009	13,976,050	10%
4534-4536	Market Usage: MWh of awarded AS, IE and net UIE	46,807,756	49,132,628	2,324,872	5%
4575	Settlements, Metering, Client Relations: customer months	1,829	1,836	7	0%

Grid Management Charges

CT					
	Core Reliability Services				
4501	Core Reliability Services - Demand (peak) [\$/MW-month]	\$ 72.377	\$ 73.602	\$ 1.23	2%
4502	Core Reliability Services - Demand (off-peak) [\$/MW-month]	\$ 47.771	\$ 48.580	\$ 0.81	2%
4503	Core Reliability Services - Energy Export [\$/MWh]	\$ 0.523	\$ 0.744	\$ 0.22	42%
4505	Energy Transmission Services- Net Energy [\$/MWh]	\$ 0.278	\$ 0.303	\$ 0.02	9%
4506	Energy Transmission Services- Deviations [\$/MWh]	\$ 0.988	\$ 1.040	\$ 0.05	5%
4511-4513	Forward Scheduling [\$/schedule]	\$ 0.810	\$ 0.987	\$ 0.18	22%
4522	Congestion Management [\$/MWh]	\$ 0.114	\$ 0.087	\$ (0.03)	-24%
4534-4536	Market Usage [\$/MWh]	\$ 0.898	\$ 0.744	\$ (0.15)	-17%
4575	Settlements, Metering, Client Relations [\$/month]	\$ 500	\$ 500	\$ -	0%

Notes:

- * GMC Service Categories are as filed in the Partial Offer of Settlement in ER 04-115-000 approved by the FERC on February 2, 2005. The revenue requirements shown include reassignments as noted in the Partial Offer of Settlement.
- * For 2008, volumes are as budgeted. 2009 volumes are as forecast. Volumes also include adjustments for discounted rates applicable to inter SC trades generally, and Path 15 Facilitator Inter SC trade schedules submitted by PG&E under the SC ID PGAB.
- * The Forward Scheduling rate for Inter SC trades is 50% of the rate for other schedules. The discounted rates applicable to Path 15 Facilitator Inter SC trades schedules are 76.4% of the discounted rate for Inter SC trades

FY2009 Revenue Requirement and Rates Detail
\$ in 000's
EFFECTIVE WITH MRTU

		FY2008 Budget	FY2009 Budget	Change	% Change
Net Revenue Requirements by Service (\$ in '000)					
4501	Core Reliability Services - Demand (peak)	\$ 30,158	\$ 31,965	\$ 1,807	6%
4502	Core Reliability Services - Demand (off-peak)	1,006	915	\$(90)	-9%
4503	Core Reliability Services - Energy Export	6,945	8,178	\$ 1,234	18%
4505	Energy Transmission Services- Net Energy	67,369	72,507	\$ 5,139	8%
4506	Energy Transmission Services- Deviations	11,924	12,828	\$ 904	8%
4508	Core Reliability Services/ Energy Transmission Services - TOR	847	914	\$ 67	8%
4511-4513	Forward Scheduling	13,566	16,223	\$ 2,657	20%
4534-4536	Market Usage - Ancillary Services and Real Time Energy	41,235	29,417	\$(11,818)	-29%
4537	Market Usage - Forward Energy	16,757	18,195	\$ 1,438	9%
4575	Settlements, Metering, Client Relations	1,829	1,836	\$ 7	0%
		\$ 191,635	\$ 192,978	\$ 1,343	1%

Billing Determinant Volume Forecast

4501	Core Reliability Services - Demand (peak): NCP - MW-months	445,518	454,828	9,310	2%
4502	Core Reliability Services - Demand (off-peak): NCP - MW-months	22,512	19,734	(2,778)	-12%
4503	Core Reliability Services - Energy Export: MWh of exports	10,304,044	12,077,727	1,773,682	17%
4505	Energy Transmission Services- Net Energy: MWh of Load	249,760,120	244,749,685	(5,010,435)	-2%
4506	Energy Transmission Services- Deviations: MWh of net UIE	12,300,654	12,517,930	217,276	2%
4508	Core Reliability Services/ Energy Transmission Services - TOR: MWh of exports	3,898,411	3,898,411	-	0%
4511-4513	Forward Scheduling: number of hourly schedules and Awarded AS bids	16,208,327	14,797,487	(1,410,841)	-9%
4534-4536	Market Usage: MWh of awarded AS, IE and net UIE	47,801,844	49,471,486	1,669,642	3%
4537	Market Usage: MWh of net purchases and sales in Day-Ahead Market	38,087,802	42,156,567	4,068,764	11%
4575	Settlements, Metering, Client Relations: customer months	1,829	1,836	7	0%

Grid Management Charges

CT					
	Core Reliability Services				
4501	Core Reliability Services - Demand (peak) [\$/MW-month]	\$ 67.692	\$ 70.280	\$ 2.59	4%
4502	Core Reliability Services - Demand (off-peak) [\$/MW-month]	44.68	46.38	1.70	4%
4503	Core Reliability Services - Energy Export [\$/MWh] (excluding TORs)	0.67	0.68	0.00	0%
4505	Energy Transmission Services- Net Energy [\$/MWh]	0.27	0.30	0.03	10%
4506	Energy Transmission Services- Deviations [\$/MWh]	0.97	1.02	0.06	6%
4508	Core Reliability Services/ Energy Transmission Services - TOR [\$/MWh]	0.22	0.23	0.02	8%
4511-4513	Forward Scheduling [\$/schedule]	0.84	1.10	0.26	31%
4534-4536	Market Usage - Ancillary Services and Real Time Energy [\$/MWh]	0.86	0.59	(0.27)	-31%
4537	Market Usage - Forward Energy [\$/MWh]	0.44	0.43	(0.01)	-2%
4575	Settlements, Metering, Client Relations [\$/month]	1,000.00	1,000.00	-	0%

Notes:

- * GMC Service Categories are as described in GMC under MRTU proposal filed with FERC (February 20, 2008 California ISO's Revisions to Grid Management Charge rate formula in Docket No. ER08-585-000)
- * For 2008, volumes are as budgeted. 2009 volumes are also as forecast.
- * There are changes in definitions of Instructed Energy and Uninstructed Imbalance Energy for 2008.
- * Rate design also includes for PIRP participants the ETS and MU charge where deviations are netted on a monthly basis. This is CT 4546.
- * The Forward Scheduling rate for Inter SC trades is 50% of the rate for other schedules.

The following table shows an analysis of the components of the changes in GMC rates from the current year to the next. The overall rate change (shown in column c) is attributable to three components:

- Changes in the overall ISO revenue requirement (column e)
- Other cost impact, including changes in O&M budget, debt service and Operating & Capital Reserve other expense recoveries attributed to each GMC service category (column f, explained in column g)
- Changes in the overall ISO revenue requirement (column h, explained by column i)

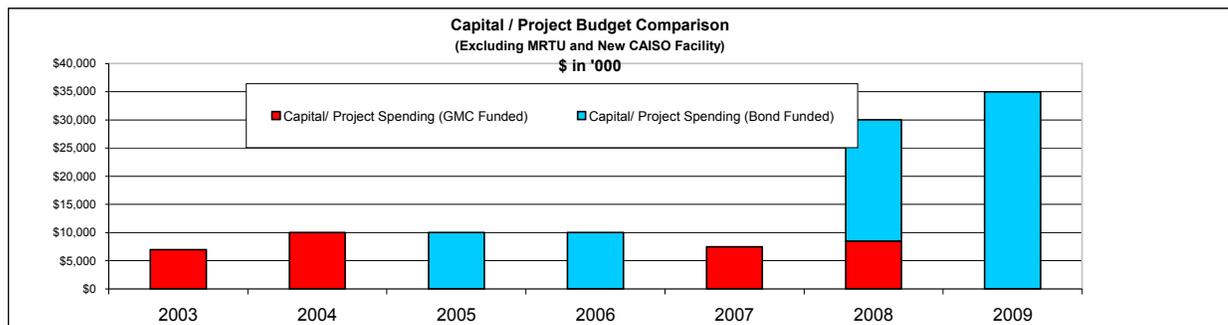
		a	b	c		d	e	f	g	h		i
Analysis of Changes in Grid Management Charges				Rate Change (see analysis to right)		% Change	Portion of Change related to overall change in ISO Revenue Requirement	Portion of Change Related to Other Cost Impact	Explanation of Other Cost Impact	Portion of Rate Change Related to Billing Determinant Volume Changes	Attributable to	
		<u>FY2008</u>	<u>FY2009</u>									
<u>CT</u>												
4501	Core Reliability Services - Demand (peak) [\$/MW-month]	\$ 67.69	\$ 70.28	\$ 2.59	4%	\$ 0.47	3.58	Overall change in revenue requirement of 7.7% for rate category, consisting of 0.4% change in O&M budget, a -15% change in debt service /cash funded capital, and a 22% change in Operating & Capital Reserve and other expense recoveries.	\$ (1.47)	2%	Increase in billing determinant volume	
4502	Core Reliability Services - Demand (off-peak) [\$/MW-month]	\$ 44.68	\$ 46.38	1.70	4%	\$ 0.31	(4.33)		\$ 5.72	12%	Decrease in billing determinant volume	
4503	Core Reliability Services - Energy Export [\$/MWh] (excluding TORs)	\$ 0.67	\$ 0.68	0.00	0%	\$ 0.00	0.12		\$ (0.12)	17%	Increase in billing determinant volume	
4505	Energy Transmission Services- Net Energy [\$/MWh]	\$ 0.27	\$ 0.30	0.03	10%	\$ 0.00	0.02	Overall change in revenue requirement of 21.5% for rate category, consisting of 4.7% change in O&M budget, a -4% change in debt service /cash funded capital, and a 21% change in Operating & Capital Reserve and other expense recoveries.	\$ 0.01	2%	Decrease in billing determinant volume	
4506	Energy Transmission Services- Deviations [\$/MWh]	\$ 0.97	\$ 1.02	0.06	6%	\$ 0.01	0.07		\$ (0.02)	2%	Increase in billing determinant volume	
4508	Core Reliability Services/ Energy Transmission Services - TOR [\$/MWh]	\$ 0.22	\$ 0.23	0.02	8%	\$ 0.00	0.02	Overall change in revenue requirement of 8.1% for rate category, consisting of 0.9% change in O&M budget, a -11% change in debt service /cash funded capital, and a 18% change in Operating & Capital Reserve and other expense recoveries.	\$ 0.00	0%	Decrease in billing determinant volume	
4511-4513	Forward Scheduling [\$/schedule]	\$ 0.84	\$ 1.10	0.26	31%	\$ 0.01	0.16	Overall change in revenue requirement of 20.2% for rate category, consisting of 1.9% change in O&M budget, a 8% change in debt service /cash funded capital, and a 11% change in Operating & Capital Reserve and other expense recoveries.	\$ 0.10	9%	Decrease in billing determinant volume	
4534-4536	Market Usage - Ancillary Services and Real Time Energy [\$/MWh]	\$ 0.86	\$ 0.59	(0.27)	-31%	\$ 0.01	(0.25)	Overall change in revenue requirement of -34.6% for rate category, consisting of 6.1% change in O&M budget, a -6% change in debt service /cash funded capital, and a -35% change in Operating & Capital Reserve and other expense recoveries.	\$ (0.02)	3%	Increase in billing determinant volume	
4537	Market Usage - Forward Energy [\$/MWh]	\$ 0.44	\$ 0.43	(0.01)	-2%	\$ 0.00	0.03	Overall change in revenue requirement of -0.5% for rate category, consisting of 0.9% change in O&M budget, a 20% change in debt service /cash funded capital, and a -21% change in Operating & Capital Reserve and other expense recoveries.	\$ (0.05)	11%	Increase in billing determinant volume	
4575	Settlements, Metering, Client Relations [\$/month]	\$1,000.00	\$ 1,000.00	-	0%			N/A				

X. 2009 CAPITAL / PROJECT BUDGET

Summary

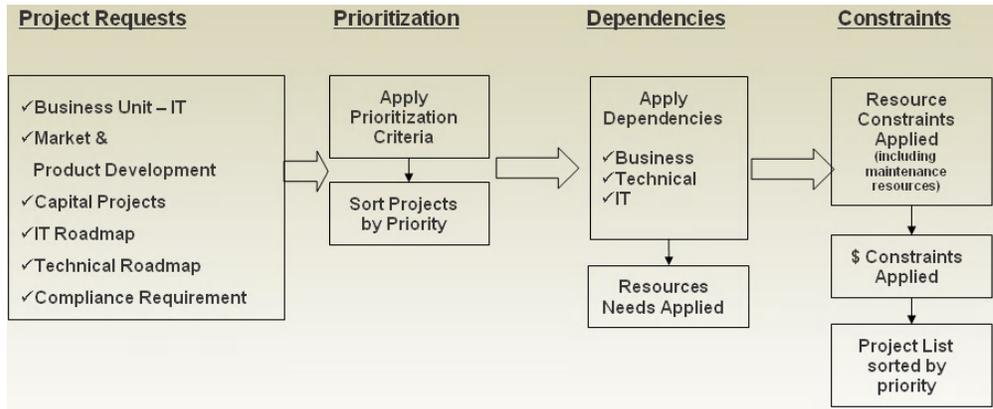
The planned 2009 capital budget of up to \$35 million will fund projects as detailed on the following pages. Additional assessment of capital spending needs will continue over the coming months, with the likelihood that actual spending in 2009 will be below the budgeted amount, as some projects will be deferred to 2010. The organization's capacity to implement capital projects will be impacted by the MRTU roll-out and subsequent period of system stabilization.

Funding for the 2009 Capital Budget has been provided by the June 2008 bond issuance. The current project list excludes the proposed the ISO facility (which will be funded separately in 2009), or the funding related to the completion of the MRTU project.



Capital / Project Budget Development Process

The 2009 capital budgeting process was conducted from July – November 2008. ISO departments were first requested to submit potential capital projects for consideration during July 2008. These projects were initially classified as priority 1-Top Priority, 2-High Priority and 3 – Very Important, assessed against a list of corporate Strategic Objectives from the 2008-2012 Strategic Plan and cross-referenced to the Enterprise Risk Inventory. Additional reviews were conducted in November to further refine the project list using criteria that were applied to each project to result in prioritized list. An overview of the process and the criteria applied follows:



Ranking Criteria				
#		Criteria	Strategic Objective	Weight
1	Benefit	Improving Operations Efficiency	Excellence in Grid and Market Operations	10
2		Improving Market Efficiency	Robust and Transparent Electricity Markets	10
3		Promote Infrastructure Development	Infrastructure Guided by Price Transparency	10
4		Stakeholder Priority	Superior Customer Service	10
5		Regulatory Requirement	Alignment with State and Federal Priorities	10
6		Internal Employee Satisfaction	Organizational Effectiveness - People Strategies	5
7		ISO Process Improvement	Organizational Effectiveness - Maturity in Capabilities	5
8		System Qualities	Organizational Effectiveness - Maturity in Capabilities	7
10	Feasibility	Requires Market Participant Development Efforts?		7
11		Impact on Systems and Resources		7
12		Project Implementation Costs		10
13		Operations & Maintenance Costs		7
14		Executive Discretion		10

This list of projects put forward is consistent with the proposed funding level, and provides an indication of the projects to be initiated during 2009. All projects that are identified for 2009 will be subject to additional review before funding is approved, including further consideration of project need, a cost-benefit analysis, and completion of a project plan. Specifically, the Corporate Management Committee⁶ will review and

⁶ The Corporate Management Committee consists of the CEO, CFO, VP Corporate Services, General Counsel and the Director of Executive Operations.

approves all projects to be funded in 2009. Priorities may change during 2009 as a result of the completion of the 2009-2013 strategic plan update, and as a result of other developments during 2009, including the completion of MRTU and the extent to which staff are required to address any post-go live issues after start-up.

Page Number	Project ID	2009-2010 Proposed Capital Projects	Priority	Estimated Project Size
Top Priority				
Compliance/Regulatory				
68	140	EMS Grid Operations Training Simulator (GOTS)	1	Small
68	418	Resource Interconnection Management System (RIMS) Application - Release 2 for FERC compliance	1	Small
69	471	CRR 2009 Enhancements	1	Medium
69	476	MAP 2: Market and Performance FERC Mandated and Stakeholder Market Enhancements	1	Medium
70	481	Critical Infrastructure Protection (CIP) Project - Phase III	1	Large
70	485	Market and Performance - MAP 1	1	Large
		Subtotal Compliance/Regulatory	6	\$ 11,500,000
Essential Projects				
71	173	Computer Direct Purchases - Hardware and Software & Office Equipment - Annual Request 2009	1	Large
71	316	2009 Facilities Leasehold Improvements/Furniture Purchase- Annual Request 2009	1	Small
72	383	Upgrade EMS Hardware from True 64 to HP UX - 2 Year Project	1	Large
72	429	Capitalized Labor for portion of Project Management Office	1	Large
72	475	Microsoft Product Refresh	1	Medium
73	480	Enterprise Disk & Backup Storage 2009 Operations	1	Large
		Subtotal Essential Projects	6	\$ 11,000,000
Strategic Initiatives				
73	354	Implement single outage Management Capability - Multi Year Project	1	Medium
73	370	Implement Network Application Tools - Dynamic Stability	1	Medium
74	439	Integration of Renewable Resources - IRRP - Project Continuation	1	Large
75	455	Activity Based Costing & Oracle Financial Systems Enhancements	1	Large
75	468	Probe Enhancements to DMM's Simulation Tool for LMP Analysis	1	Small
76	472	Demand Response Program	1	Large
76	473	GE - MARS Program	1	Small
76	483	Corporate Dashboard	1	Small
		Subtotal Strategic Initiatives	8	\$ 7,000,000

Exhibit: 2009-2010 Capital/Project Budget – Project Listing

Future System Enhancements				
77	332	Website Content Management System	1	Small
77	333	Portal Enhancements for Content Access and Security	1	Medium
77	386	Credit Management Enhancements-Credit Liability Calculations and Reporting	1	Medium
78	408	Oracle Identity Management Security Enhancements	1	Small
78	427	MQS Enhancements to Automate Manual Workarounds	1	Medium
79	430	Market Validation Software Tool for Market Validation Group	1	Small
79	440	Casewise Portal (Business Process Management)	1	Small
80	441	Alhambra Control Room Console Replacement	1	Small
80	463	5 and 15-Minute-Level Load Forecasting (ALFS Itron Upgrade)	1	Small
80	478	CRM Software Feasibility Study	1	Small
81	479	Train Enhancements & Modifications	1	Small
81	484	Model Constraints of Combined Cycle Units	1	Large
Subtotal Future System Enhancements			12	\$ 5,500,000
Total Top Priority Requests- Capital Request for 2009			32	\$ 35,000,000
High Priority Projects				
82	141	EMS Enhancements , AGC Tuning Tool, Resource Monitor	1	Small
82	362	Development and Implementation of CAISO-Operated Capacity Market or other procurement mechanism in support of Long-Term Reliability Requirements	1	Medium
83	393	Market Services Required Enhancement	1	Large
83	422	Application corrections and automation of manual workarounds	1	Small
84	442	SAS Enhancements for DMM Market Monitoring Framework	1	Small
84	466	30 Minute AS Reserve	1	Large
85	467	Standard RA Capacity Product	1	Medium
85	470	CRR Outage Revenue Adequacy Project	1	Large
85	482	Data Warehouse Design and Implementation	1	Medium
86	489	CAP Application Corrections and Automation of Manual Workarounds	1	Small
Total High Priority Requests			10	\$ 12,000,000

Exhibit: 2009-2010 Capital/Project Budget – Project Listing

Other Potential Projects (Not funded for 2009)				
86	274	Control Room Alarm System	2	Small
86	277	EMS Data Engineering PDS system -	2	Small
87	417	Automation of new Resource Adequacy Requirements	2	Medium
87	432	LMP Contour Graphics	2	Small
88	452	Oracle Configuration Management and Data Vault	2	Small
88	490	Information Technology Infrastructure Library Implementation	2	Small
		Total Priority 2 Requests	6	\$ 1,400,000
88	215	Physical Security Systems Modification and Enhancement (Marsh Recommendations)	3	Small
89	405	EMS Mapboard Upgrade	3	Small
89	443	Satellite Phone Equipment Upgrade	3	Small
89	453	Remedy Licensing	3	Small
90	456	User Productivity Kit (UPK)	3	Small
90	459	HPOV Test Console	3	Small
90	462	Data Archive Tool	3	Small
91	465	Performance Based Management Toolkit	3	Small
91	486	WREGIS Reporting Automation	3	Small
91	488	Netting Checker Migration	3	Small
		Total Priority 3 Requests	10	\$ 1,700,000
		Grand Total 2009-2010	58	\$ 50,100,000
		Small Projects up to \$ 500K; Medium Projects = \$501K to \$1M ; Large Projects >\$1M		

Note: The actual projects completed during 2009 will vary, including the potential addition of projects not on this list, the deferral of projects on this list to future years, or the elimination of projects on this list if no longer necessary.



2009-2010 Capital and Project Budget

Project ID Project Name

140 EMS Grid Operations Training Simulator (GOTS)

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Impacted Systems

EMS

Strategic Objective

SO1.0 Excellence in Grid Operations

Overview of Project

To provide funding for changes identified as the Grid Operations Training Simulator and Market Operations Training Simulator becomes widely used in Training Real Time Grid Operations personnel.

Items include:

- RAS simulation
- Enhanced diagnostics and usability
- Interfacing work to match up with new market systems based training.

Project ID Project Name

418 Resource Interconnection Management System (RIMS) Application - Release 2- For FERC Compliance

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Mandated Regulatory Project

Impacted Systems

RIMS

Strategic Objective

SO2.1.C Enabling Competition in Transmissio

Overview of Project

The Resource Interconnection Management System (RIMS) application was released in September 2007. There are known and anticipated enhancements that will be required to comply with Tariff changes expected in 2008. These include FERC approval of the Small Generator Interconnection Procedures (SGIP) and changes required due to the Generator Interconnection Process Reform (GIPR). In addition, there are known and anticipated enhancements identified by RIMS users to improve the effectiveness of the application.



2009-2010 Capital and Project Budget

Project ID Project Name

471 CRR 2009 Enhancements

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	Strategic Plan Project

Impacted Systems

CRR

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

The CRR Project will continue its development work in support of the Market Initiatives Roadmap. This will consist of new functionality such as Weighted Least Squares, Multi-period optimization, sell feature in the auction etc. These are features that stakeholders are requiring and in certain cases FERC is mandating. Each change will follow the current CAISO process.

Project ID Project Name

476 MAP 2: Market and Performance FERC Mandated and Stakeholder Market Enhancements

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	Strategic Plan Project

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

Several features and functions have been identified as highly desirable for MRTU by LECG, by FERC, by the stakeholders, and in the process of policy/tariff/software reconciliation, but could not be accommodated in the initial MRTU release or the second release named MAP. These market design enhancements are described in the Market Initiatives Roadmap. A stakeholder scoping effort has ranked these items as HIGH priority. These items will require capital budget in 2009 to begin software specification for implementation in late 2010 or 2011.



2009-2010 Capital and Project Budget

Project ID Project Name

481 Critical Infrastructure Protection (CIP) Project – Phase III

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	Mandated Regulatory Project

Impacted Systems

Security Systems
Communication Network
None

Strategic Objective

SO1.0.A Establish a compliance monitoring fr
SO2.3 Alignment with State and Federal Priors
SO3.2 Maturity in Capabilities
SO3.2.A Improved Processes, Proj. Mgmt, an
SO3.2.B Improve Strategy Execution
SO3.3 Superior Customer Service

Overview of Project

The NERC CIP mandates the CAISO to implement controls, based off of defense-in-depth model, to protect it's Critical Assets, Critical Cyber Assets (CCAs), and the information related to them. In addition to enabling the CAISO to satisfy NERC CIP requirements, several of the technologies within this project also enables the CAISO to address the requirements in AB 1386 in regards to protecting personal identifiable information. This project is to purchase and implement the necessary technologies required to provide an adequate level of network compartmentalization; upgrade and expand our malicious software architecture; automate policy management, network rule analysis, and business continuity and disaster recovery; and address data loss prevention.

Project ID Project Name

485 Markets and Performance 2009 (Formerly Release projects 361, 364, 400, 401)

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	Strategic Plan Project

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

Formerly Year 1 Market Design Enhancements, Convergence Bidding, Dispatchable Demand Response, and Scarcity Pricing - Market and Performance, The primary purpose of MAP is to:

- Ø Comply with the directives contained in FERC's September 21, 2006 Order[1];
- Ø Gain the market efficiencies represented by each of the elements that comprise MAP;
- Ø Work collaboratively with the CAISO's stakeholders to prepare a recommendation to the CAISO Board of Governors to finalize the design of each element of MAP;
- Ø Follow the CAISO's Strategic Plan; and
- Ø Implementation of functionality within the Market Initiative Roadmap and Ranking process



2009-2010 Capital and Project Budget

Project ID Project Name

173 Computer Direct Purchases - Hardware and Software & Office Equipment - Annual Request 2009

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	Strategic Plan Project

Impacted Systems

Computer Equipment

Strategic Objective

SO3.2.B Improve Strategy Execution
SO3.2 Maturity in Capabilities

Overview of Project

This proposed program for FY2009 will to allow the ISO to determine the best financial decision on its acquisitions for new and/or replacement equipment. Currently each acquisition is evaluated to lease or buy based on direction from Finance as the best benefit for the ISO. These funds are required to purchase:

- Replacement of select group of servers (±50) in excess of 3 years old:
- New and replacement desktops and laptops equipment (200) and monitors (300):
- General software license purchases:

The proposed funding provides for the following IT hardware acquisition scenarios:

- 1) For non-project hardware and software purchases for all of FY2009
- 2) To support server/system consolidations,
- 3) To support expansions and upgrades of existing systems
- 4) Refresh owned hardware, 3 years or older

The proposed funding provides for the following IT software acquisition scenarios:

- Funding for required Third-Party software applications not covered under individual projects
- Procurement of licensing required for expansion for growth (additional licenses) for applications currently used, such as in the Office environment.

Note: Future needs are projected for applications such as: Microsoft, Oracle, VERITAS, TripWire, Zen works, VMWare, Bladelogic, Splunk and HPOV.

Project ID Project Name

316 2009 Facilities Leasehold Improvements/Furniture Purchase- Annual Request 2009

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	System Change for Operational Improvement

Impacted Systems

Facilities

Overview of Project

Provide for leasehold improvement projects and furniture requirements, as needed, to support ISO staff residing in our Folsom and Alhambra locations. The projects include 1) Ergonomic chair purchases, 2) Workstation enhancements, 3) Filing Cabinets, 4) misc. installations for small projects, and 5) misc. data center electrical installations.



2009-2010 Capital and Project Budget

Project ID Project Name

383 Upgrade EMS Hardware from True 64 to HP UX - 2 Year Project

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	Strategic Plan Project

Impacted Systems

EMS

Strategic Objective

SO1.0 Excellence in Grid Operations
SO1.0.B Advance Analysis Tools

Overview of Project

The Hardware and Operating System that our EMS system is on is a "retired" platform from HP. They will continue support until 2010 however between EMS Application software development and dwindling support it makes sense to strategically make the change to the new platform (HP UX) much sooner. This will be a large project and will require contract (ABB and HP) and ISO EMS and Infrastructure staff. This is a 2 year project.

Project ID Project Name

429 Capitalized Labor for portion of Project Office

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	NA

Overview of Project

Executive Management has expressed the view that CAISO staff committed to work on capital projects should be excluded from the O&M budget and included in the CAISO annual capital budget, and has specifically recommended this approach for CAISO's Project Office. This treatment is consistent with the required accounting treatment for actual costs incurred, where CAISO staff who work on capital projects are not charged to O&M expense, but are capitalized for financial reporting purposes at year-end. Accordingly, it is appropriate to align the budget and actual cost treatment for such staff.

This program would remove from the O&M budget the costs of 6 resources in the Project Office are assumed to be dedicated and directly contributing to capital projects. It is assumed that the PO Manager is providing administrative oversight to the PO, and that such costs are appropriately charged to O&M, not capital. Additionally, the costs of certain project work such as pre-project requirements gathering cannot be capitalized under the accounting guidelines. So, such costs are appropriately charged to O&M.

Project ID Project Name

475 Microsoft Product Refresh

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	System Change for Operational Improvement

Impacted Systems

Computer Equipment

Strategic Objective

SO3.2 Maturity in Capabilities

Overview of Project

This project is to upgrade our Microsoft products including MS Office 2007 (Word, Excel, PowerPoint, Outlook), SQL Server 2008, Project Server, and several other misc. Microsoft products to their most current versions. Included in this is the SharePoint product for upgrading and enhancing eCurrent (intranet).



2009-2010 Capital and Project Budget

Project ID Project Name

480	Enterprise Disk & Backup Storage for 2009 Operations		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Large	IT Infrastructure Project

Impacted Systems

Computer Equipment

Overview of Project

This budget item is to purchase disk and backup storage required to maintain normal computer operations for all existing enterprise applications in 2009.

Project ID Project Name

354	Implement single outage Management Capability - Multi Year Project		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Medium	System Change for Operational Improvement

Impacted Systems

SLIC
EMS
COMT
IFM

Strategic Objective

SO1.0 Excellence in Grid Operations
SO1.0.B Advance Analysis Tools

Overview of Project

In 2007, CAISO redefined its expectations in an Outage Management System (OMS). An OMS strategy and capability roadmap was developed that outlined how to replace the current SLIC and COMT Outage systems over 2008 and 2009 by creating and implementing incremental OMS Capability modules. These modules would target specific outage domains including Transmission, Generation, Analytical Tools, and Reporting. Common development and technology standards would be used throughout the modules which would allow for the greatest amount of integration to other systems and management oversight of third-party code development. A common outage lifecycle business process will be validated and utilized across all OMS components to ensure consistency and seamless functional operation.



2009-2010 Capital and Project Budget

Project ID Project Name

370	Implement Network Application Tools - Dynamic Stability		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Medium	Strategic Plan Project

Strategic Objective

SO1.0.B Advance Analysis Tools

Overview of Project

The Dynamic Stability Applications are critical tools for reliably operating the grid.

Dynamic voltage stability refers to the ability of the system to provide sufficient reactive support to return the voltage to normal after a disturbance. The dynamic voltage stability of the system is significantly affected by the characteristics of the load. There is a concern that the high proportion of induction motor load may significantly degrade the dynamic voltage stability in the area. If most of these motors remain connected following network faults, then the additional current drawn by the motors as they re-accelerate back to normal operating speed after a fault could potentially cause the system voltage to collapse. This will be a multi-year project.

Project ID Project Name

439	Integration of Renewable Resources - IRRP- Project Continuation		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Large	Strategic Plan Project

Strategic Objective

SO1.0.C Integration of renewable Resources

Overview of Project

In the next few years, the state of California requires that electricity providers serve 20 percent of their retail load from renewable resources. Statewide, greenhouse gas emissions will also be reduced to 1990 levels by 2020. At the same time, California recognizes the importance of maintaining reliable electric service for consumers, which is primarily the responsibility of the California Independent System Operator (CAISO).

In November, 2007, the CAISO published its report entitled, "Integration of Renewable Resources Report, Transmission and Operating Issues and Recommendations for Integrating Renewable Resources on the CAISO Controlled Grid". The CAISO initiated the study and resulting report to ensure that the operation and design of the transmission grid fully supports California's established standards with respect to the development and integration of renewable resources. Based on the recommendations in the report, CAISO launched the Integration of Renewable Resources Program (IRRP). The overarching goal of the IRRP is to proactively foster the increase in renewable energy while assuring and maintaining the reliability of the electric supply within the state. The current Program is broken up into 5 tracks.

Track 1: New Renewable Forecasting (NERF) - these projects are funded through 2008 Capital

Track 2: Identify and Develop CPUC Rules and Tariff Changes

Track 3: Perform Required Planning Studies

Track 4: Market Product Development to support renewable resources

Track 5: Large Generator Interconnection and Transmission Planning Process (LGIP changes)



2009-2010 Capital and Project Budget

Project ID Project Name

455 Activity Based Costing & Oracle Financial Systems Enhancements

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	System Change for Operational Improvement

Impacted Systems

Oracle Financials/HR

Strategic Objective

SO3.2.A Improved Processes, Proj. Mgmt, an

Overview of Project

CAISO's vision is to create a Financial Management Capability that enables more effective collection and management of both internal labor and external goods and services by process and project.

Will be moving forward with additional phases of the ABC project in 2009, which will require additional consulting fees for developing interfaces as well as additional software purchases. Enhancements to the current ERP platform will provide transactional efficiency and a mechanism to capture cost. Changes to Project Management Module, Implementation of Project Analysis application, modifications to ATM, Oracle Projects, Microsoft Project Server, and Oracle Finance modules will be needed.

Project ID Project Name

468 Probe Enhancements to DMM's Simulation Tool for LMP Analysis

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Impacted Systems

Probe

Strategic Objective

- SO1.0.B Advance Analysis Tools
- SO2.2.C Improvements to Regional Energy M
- SO2.2.A MRTU Program
- SO2.2.B Market Initiatives Roadmap

Overview of Project

Further develop and enhance the PROBE simulation tool for LMP analysis as follows: 1) further incorporation of MRTU market design simulation and monitoring features, and 2) development of automated interface between Siemens MRTU software and PROBE (including PSS/E and other full network model data).



2009-2010 Capital and Project Budget

Project ID Project Name

472 Demand Response Program

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	Strategic Plan Project

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

The initial work on Demand Response was to integrate the ability to do Dispatchable Demand Response into MRTU Market Release 1A or MAP release. In addition to the MAP release the CAISO is looking to further incorporate the economic and emergency-relief benefits provided by demand response per the CAISO reliability and market efficiency objectives. The CAISO needs to investigate impacted systems, both on the market and operational side, to ensure demand response resources can be effectively accounted for and dispatched by the CAISO.

Project ID Project Name

473 GE – MARS Program

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Mandated Regulatory Project

Strategic Objective

SO2.3.A Develop Env. Policy with Reliable Sy

SO1.0 Excellence in Grid Operations

Overview of Project

Purchase a software program that provides Planning Reserve Margin using the Probability method of LOLE 0.1 days per year will be computed in order to procure adequate long term generation capacity. This program is the state of the art software currently commercially available.

Currently reserve margin is set without any formal studies. With increased integration of renewable, it is important to compute precise reserve margin using probabilistic methodologies. CAISO would like to enhance its engineering skills in performing probabilistic reserve margin assessment.

Project ID Project Name

483 Corporate Dashboard

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Strategic Objective

SO3.2.B Improve Strategy Execution

SO3.2.A Improved Processes, Proj. Mgmt, an

Overview of Project

The organization has identified improvement in strategy execution as a corporate initiative in support of the maturity in capabilities objective. One aspect of progress on this initiative should be measured by our ability to deliver the results identified in the various initiatives in the five-year strategic plan.



2009-2010 Capital and Project Budget

Project ID Project Name

332 Website Content Management System

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	System Change for Operational Improvement

Strategic Objective

SO3.3.A Customer Issue Resolution Process

Overview of Project

Acquire Web content management product to help CAISO create, manage, deliver and archive website content and related applications.

Project ID Project Name

333 Portal Enhancements for Content Access and Security

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	Strategic Plan Project

Impacted Systems

Market Participant Portal

Strategic Objective

SO3.3.C Customer Portal Expansion

Overview of Project

This requirement came about out of the realignment, and is tied to the Portal initiative for secure single point of entry that allows clients and stakeholders to view and retrieve client specific and market-based information. The portal has been implemented, and will need to undergo a series of enhancements to improve information access and functionality.

Project ID Project Name

386 Credit Management Enhancements- Credit Liability Calculations and Reporting

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	Strategic Plan Project

Impacted Systems

SaMC - Settlements

Oracle Financials/HR

Strategic Objective

SO1.0.D Efficient Cash Clearing Timeframe

Overview of Project

CAISO is responsible for performing financial reviews of Market Participants in order to determine credit worthiness. Such review procedures are intended to protect CAISO and Market Participants from undue exposure to default risk by other Market Participants. Currently the process to determine liabilities and calculate Estimated Aggregated Liability (EAL) is dependent upon the settlement process and timeline. Under MRTU this effectively creates a T+7B 'blind spot' without visibility to potential liabilities. This project will ensure that CAISO has the ability to leverage data as soon as it becomes available within the CAISO systems and liabilities can reasonably be determined.



2009-2010 Capital and Project Budget

Project ID Project Name

408 Oracle Identity Management Enhancements

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Impacted Systems

Oracle Financials/HR

Strategic Objective

SO3.2.A Improved Processes, Proj. Mgmt, an
SO2.3 Alignment with State and Federal Piori

Overview of Project

With the implementation of Oracle Identity Management in 2008 we have created a centralized account provisioning platform for internal user access to systems. There is a need to continue to expand the scope of the project to include external user provisioning and authentication, single-sign on capability, and employee life cycle automation for NERC/CIP compliance. This will streamline and automate the process by which market participants gain access to the market systems and will greatly increase the ability to support and audit such transactions.

We will continue to move towards a single sign-on environment through enhancements to this application. This product is being utilized as a key tool used by CAISO in the monitoring of our compliance against NERC/CIP controls. It will be automating the account administration for employees and contractors within the ISO, and for external participants with access to CAISO systems.

Project ID Project Name

427 MQS Enhancements to Automate Manual Workarounds

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	Strategic Plan Project

Impacted Systems

MQS

Strategic Objective

SO1.0.D Efficient Cash Clearing Timeframe
SO2.2 Robust and Transparent Electricity Mar

Overview of Project

The CAISO will go-live with version 2.0 of MQS. MQS performs a series of post processes to allow for the calculation of expected energy, allocating capacity under the curve etc. After the initial go-live experience we are anticipating that there will be issues that need to be built into MQS that we have missed. Currently we have about fifteen issues that are candidates to be built into MQS at a later stage. We anticipate that each issue and each subsequent release of MQS will cost us a substantial amount of capital. This capital item is a place holder for that project



2009-2010 Capital and Project Budget

Project ID Project Name

430 Market & Price Validation Software Tool for Market Operations Group

Priority Project Size Expenditure Justification

1 Top Priority Small Strategic Plan Project

Impacted Systems

Strategic Objective

IFM

SO2.2.C Improvements to Regional Energy M

Overview of Project

This is a capital project to re-develop certain components of the Market Validation and Price Correction Process software tools initially developed for MRTU Go-Live. The Go-Live version of these applications consist of a core SAS validation software module developed by LECG and is facilitated by market timing execution module and data post-processing module. This end-to-end process is designed to provide analytical capability for Market Operations group to identify invalid market outcomes and to prepare data for MQS price correction process. In our survey of PJM, ISO NE, and NY ISO market validation practices, we identified certain functionalities of their software tools that are not included in our MRTU Go-Live version. These additional features include (i) dashboard metrics for EMS state estimator quality of solution, (ii) comparative price threshold trigger alarm mechanism(s), (iii) ability for software to auto-detect certain market conditions to reduce or eliminate "false-positive" error indications, and (iv) ability to generate reports of cross-market and cross-interval anomalous market results (that is, association of multiple error indications to a common root cause error for reporting purposes). These enhancements to the MRTU Go-Live version of the Market validation tools will be instrumental to CAISO meeting the stated (tariff) objective of closing the Price Correction Time Horizon window from the initial allocation of 8 days to the final allocation of 3 days beginning at the one-year anniversary of MRTU Go-Live.

Project ID Project Name

440 Casewise Portal (Business Process Management)

Priority Project Size Expenditure Justification

1 Top Priority Small System Change for Operational Improvement

Impacted Systems

Strategic Objective

Casewise

SO3.2.B Improve Strategy Execution

Overview of Project

Today, Casewise users access the business process diagrams in one of two ways. A user with a Casewise account can login to view, edit, and print process diagrams. However, the majority of CAISO users do not have Casewise accounts and view the published diagrams through the eCurrent site. By implementing the Casewise Portal, all those without Casewise accounts will have the ability to search, sort, and print diagrams through the Portal application.



2009-2010 Capital and Project Budget

Project ID Project Name

441 Alhambra Control Room Console Replacement

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Impacted Systems

Strategic Objective

Facilities

SO1.0 Excellence in Grid Operations

Overview of Project

Replacement of the Evans consoles in the Alhambra Control room with ergonomically approved systems compatible with today's computerized monitoring equipment.

Control room workstations in the Alhambra Control Room were installed in 1997. Their design is based on the computer technology of the time, which has changed substantially since then rendering them much less effective for deploying today's technology. The consoles were also designed with minimal ergonomic considerations. Ergonomic consideration is a major factor in today's console design and their use to minimize repetitive injuries and provide operator comfort while engaged in their day to day activities has proven very cost effective to corporations.

Project ID Project Name

463 5 and 15-Minute-Level Load Forecasting (ALFS Itron Upgrade)

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Impacted Systems

Strategic Objective

ALFS

SO1.0.C Integration of renewable Resources

Overview of Project

Real-time system operations requires two separate load forecasts. The first is at the 5-minute level of load resolution and is used for the next 5 minutes out to five hours ahead. The second is at the 15-minute level of load resolution and is used for the balance of the current day out to ten days ahead. An upgrade to the ALFS Itron product is required to implement these changes.

Project ID Project Name

478 CRM Software Feasibility Study

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Overview of Project

This is a request to perform a feasibility study to evaluate Customer Relationship Management (CRM) software. There are multiple vendors and systems available and this money will allow us to do a comprehensive study to evaluate the scope and efficiency gains that a CRM software package would bring to the organization.



2009-2010 Capital and Project Budget

Project ID	Project Name		
479	TRAIN Enhancements and Modifications		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Small	Strategic Plan Project

Overview of Project

TRAIN is the primary customer issue tracking software used by the CAISO. It has significantly enhanced the organizations ability to track and assign issues. There are many opportunities for improvement that this money would be used for:

- Link TRAIN and MQC together
- Enhanced Reporting Capabilities
- Current bug fixes
- Evaluation of server and possibly upgrading
- Enhancement to external participants module (IMS) through the portal

Project ID	Project Name		
484	Model Constraints of Combined Cycle Units		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Large	Strategic Plan Project

Impacted Systems

SIBR

Strategic Objective

SO2.2.B Market Initiatives Roadmap

SO2.2.B Market Initiatives Roadmap

Overview of Project

The CAISO is planning to implement modeling of Combined Cycle Units after the start-up of MRTU. The FERC mandated that this capability be added to the CAISO market within 3 years of MRTU start-up. The timeline for this effort has been significantly compressed, however, due to problems with dispatch instructions using the forbidden range information. After start-up, the same practices that are used in today's market to deal with forbidden operating ranges will be employed. The implementation of CCU modeling will help alleviate the need for operators to intervene to avoid infeasible dispatches due to forbidden ranges, and will ensure that the affected units are dispatched based on economic solutions.



2009-2010 Capital and Project Budget

Project ID Project Name

141 EMS System Enhancements, AGC Tuning Tool, Resource Monitor

Priority Project Size Expenditure Justification

1 Top Priority Medium System Change for Operational Improvement

Impacted Systems

Strategic Objective

EMS

SO1.0 Excellence in Grid Operations

SO1.0.B Advance Analysis Tools

Overview of Project

It is anticipated that over the course of the next year, enhancements and incremental changes will need to be accomplished for the EMS system as incremental requests for new features, functionality and enhancements accrue due to changing business requirements. The dollars represented here act as a placeholder for required changes.

- 1) AGC Tuning Tool
- 2) Develop an automatic alarm monitor for sudden change in generation or interchange
- 3) Augment Existing Inter Control Center Protocol License count by 5 licenses

Project ID Project Name

362 Development and Implementation of CAISO-Operated Capacity Market or other procurement mechanism in support of Long-Term Reliability Requirements

Priority Project Size Expenditure Justification

1 Top Priority Medium Strategic Plan Project

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

The CPUC has initiated a joint proceeding with the CAISO during summer 2007 to explore alternative approaches for designing and implementing a capacity market, which would become a key element of the state's program to require load-serving entities to procure sufficient supply capacity to meet their load-serving obligations and provide sufficient reserves to support reliable grid operation by the CAISO. Such requirements on LSE's are also intended to create incentives for timely investment in new supply capacity in the locations where it is most needed. The proposed capacity market would provide a transparent venue for parties to buy and sell a standardized capacity product. Such a market is widely viewed as needed for transparent pricing and competitive supply of capacity, efficient procurement, and truing up of individual LSE supply arrangements to reflect actual load at the time of delivery, for example to reflect customer migration between LSE's under Direct Access. Market participants have been participating throughout this year in CAISO and CPUC proceedings to develop specific proposals for the design of such a capacity market. The CAISO process is focused on a centralized capacity market that would be operated by the CAISO. A conceptual proposal will be developed over the rest of 2007, as the proceeding moves toward the formal adoption by the CPUC of a capacity market design in the first or second quarter of 2008. At that point the CAISO will need to begin the more detailed development of the specific design rules to implement the adopted capacity market design with a target implementation date of 2010.

If approved this effort will span at least 2 years. The year one capital costs of approximately \$1 million for initial development will include: 1) Specification, 2) RFP, 3) Evaluation of Proposals, 4) initial Project Management. Second year capital costs will be approximately four times that amount.



2009-2010 Capital and Project Budget

Project ID Project Name

393 Market Services Required Enhancements

	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Large	System Change for Operational Improvement

Impacted Systems

Strategic Objective

MQS

SO1.0 Excellence in Grid Operations

SaMC - Settlements

SO2.3 Alignment with State and Federal Priors

IFM

SO3.3 Superior Customer Service

RTM

SIBR

Overview of Project

The MRTU project is scheduled to be implemented in 2009. Additional funds are requested to incorporate
1) new features resulting from unforeseen problems that may be encountered in the operation of the market system applications.

2) market design changes resulting from post-implementation FERC orders.

3) Important features identified previously, but were deferred because they were not critical for go-live of MRTU.

This project is intended to address post-MRTU changes to all systems managed by the department of Market Services.



Project ID Project Name

422 OMAR Application New Features, Corrections, and Automation of Manual Workarounds

	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Small	Strategic Plan Project

Impacted Systems

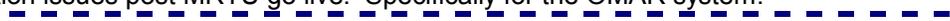
Strategic Objective

OMAR

SO3.2.A Improved Processes, Proj. Mgmt, an

Overview of Project

Request for funds to be set aside for features previously de-scoped from previous projects, automate workarounds and fix other application issues post MRTU go live. Specifically for the OMAR system.





2009-2010 Capital and Project Budget

Project ID Project Name

442 SAS Enhancements to DMM Market Monitoring Framework

	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Small	Strategic Plan Project

Impacted Systems

EDR

MMS

Strategic Objective

SO1.0.B Advance Analysis Tools

SO2.2.A MRTU Program

SO2.2.B Market Initiatives Roadmap

Overview of Project

The purpose of the proposed project is to further develop long-lasting improvements to the CAISO's ability to effectively monitor and report on market performance through (1) developing a robust data mart that facilitates effective and efficient development and production of monitoring metrics, (2) enhancing existing software functionality within the SAS Enterprise Business Intelligence platform to facilitate effective and efficient market monitoring, (3) develop and implement advanced analytic functions for analyzing market trends and their root drivers, and (4) Develop and implement market and participation event triggers and reporting of supporting data and metrics for both monitoring and Enforcement Protocol administration. Note that this request reflects the fact that CAISO Staff will be developing data, performance metrics, and process as part of their core responsibilities in 2009 and that the requested funds are specifically to hire consultants to enhance existing functionality within existing software utilized at CAISO.

Project ID Project Name

466 30 Minute AS Reserve

	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1	Top Priority	Large	Strategic Plan Project

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

During the stakeholder process of various Market Initiatives (CPUC Capacity Market Proceeding, Scarcity Pricing) stakeholders have raised the potential benefits of a new Ancillary Services Product to address 30 minute reliability contingencies. Currently, contingencies that could be covered by a 30 minute product are addressed using Must-Offer waiver denials and out of market dispatch. In the future, after MRTU, these contingencies will be addressed using exceptional dispatch when insufficient capacity is committed in the day-ahead market.

10 minute ancillary services products which could result in the CAISO needing to procure Ancillary Services on a sub-regional basis in higher amounts than would otherwise be necessary to meet WECC requirements.



2009-2010 Capital and Project Budget

Project ID Project Name

467 Standard RA Capacity Product

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	Strategic Plan Project

Strategic Objective

SO2.2.B Market Initiatives Roadmap

Overview of Project

A standard RA Capacity Product needs to be defined and governed by the CAISO tariff whereby the CAISO would assume responsibility for (1) registration of product "tags" (2) tracking, buying, selling and trading of the product, and (3) tracking generator performance and applying penalties for non-performance through a software product. Software solution is yet to be determined.

Project ID Project Name

470 CRR Outage Revenue Adequacy Project

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Large	System Change for Operational Improvement

Impacted Systems

CRR
COMT

Strategic Objective

SO1.0 Excellence in Grid Operations
SO2.3 Alignment with State and Federal Prio

Overview of Project

Stakeholders are concerned about the outage requirements which require them to notify us of significant outages thirty days in advance so that the CRR system can appropriately allocate CRR's to holders. The Transmission Owners want the ISO to build a simulation tool to estimate the effect of outages on revenue adequacy and in this manner allow them greater flexibility. i.e. if there is little effect on revenue adequacy then they should be allowed to take the outage.

Project ID Project Name

482 Data Warehouse Design and Implementation

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Medium	System Change for Operational Improvement

Impacted Systems

Computer Equipment
EDR

Overview of Project

The CAISO has enhanced data collection and assessment and with this capability comes the need for additional data storage, management, and mining. A data warehouse capability is needed to meet future demands expected over the next 2-5 years. Future changes such as SMART GRID etc will increase the need in this area.



2009-2010 Capital and Project Budget

Project ID Project Name

489 CAP Application Corrections and Automation of Manual Workarounds

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
1 Top Priority	Small	Strategic Plan Project

Impacted Systems

CAP

Overview of Project

Request for funds to be set aside for necessary workaround automation and/or application fixes post MRTU go-live. Specifically for the CAP Application.

Project ID Project Name

274 Control Room Alarm System

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
2 High Priority	Small	Strategic Plan Project

Strategic Objective

SO1.0 Excellence in Grid Operations

Overview of Project

Control Room Environmental alarms are requested to adequately alert Operations staff to EMS, RAS, Infrastructure alarm issues. This project would identify and produce a special alarm solution that would accomplish bringing various high level alarms into the control room via an alarm panel and audio system. This would replace the current RAS alarm / printer system in the control room.

Project ID Project Name

277 EMS Data Engineering PDS system

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
2 High Priority	Small	Strategic Plan Project

Strategic Objective

SO1.0 Excellence in Grid Operations

SO1.0.B Advance Analysis Tools

Overview of Project

This project would replace our PDS GEO database system with the same Windows system provided by the vendor to increase our Data Engineering Productivity. This also would provide several more ESRI licenses for EMS staff to increase our Data Engineering abilities.



2009-2010 Capital and Project Budget

Project ID Project Name

417 Automation of new Resource Adequacy Requirements

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
2 High Priority	Medium	System Change for Operational Improvement

Overview of Project

- Placeholder - Resource Adequacy items for automation in 2009:
- Market Participant interface to submit Qualifying Capacity (cut from 2007 scope)
 - Market Participant interface to submit Supply Plans (cut from 2007 scope)
 - Market Participant interface and automation of Import Allocation Process
 - Local (Supplemental) Showing Assessment /IRR Phase 3
 - Tool to translate pslf format used in P&ID to market resource ID used in rest of RA process (was in IRR Phase 3)
 - Local RCST Procurement and determination of RCST cost allocation (output of this MPD initiative is still unclear)
 - Use-Limited Resource Registration (may be a Market Services initiative)
 - Use Plan Submission (may be a Market Services initiative)
 - Bid Monitoring of Resource Adequacy Resources
 - Resource Adequacy Surcharges (for CAPS - still unknown whether this will be needed at the start of MRTU, if not then it will have to be automated for use after MRTU startup)
 - Some type of placeholder for additional work to support the CPUC (this may be more O&M rather than capital). The CPUC basically re-opens the RA process every year to add more requirements or change something for the upcoming year.

Project ID Project Name

432 LMP Contour Graphics

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
2 High Priority	Small	System Change for Operational Improvement

Impacted Systems

Strategic Objective

OASIS

- SO1.0 Excellence in Grid Operations
- SO3.3.A Customer Issue Resolution Process

Overview of Project

Market Information wants to show a contour plot of pricing under the new LMP pricing system. This is consistent with the practices of other ISO's, and has been identified as the sort of service/product that operators and participants are expecting. There are similar maps for the ISO-NE, NYISO, PJM etc. This project would enhance the information that we provide to operations and market participants, and would add new functionality to an already existing functionality that DMM has. DMM has an internal version of this, but not a web version for the general public. The work for the project would consist of hiring a specialized SAS consultant with expertise in mapping algorithms to take what has already been developed for DMM and post it to the web, write scripts to update the graphic every five minutes etc. This is such specialized work that it makes sense to hire someone to set it up. Once setup is complete there is a strong probability that we could maintain it ourselves as we will have access to all the code, however we need funding for the initial development



2009-2010 Capital and Project Budget

Project ID Project Name

452	Oracle Configuration Management and Data Vault		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
2	High Priority	Small	Strategic Plan Project

Impacted Systems

Oracle Financials/HR

Strategic Objective

SO2.3 Alignment with State and Federal Priors
SO3.2.A Improved Processes, Proj. Mgmt, an

Overview of Project

NERC CIP requires that CAISO maintains and monitors security configurations of Critical Cyber Assets. This software enables us to centrally configure and monitor our DB environment to ensure compliance with NERC CIP standards. Oracle Data Vault enables us to implement security controls within our HR databases to meet AB 1386 requirements and to protect employee information.

Project ID Project Name

490	Information Technology Infrastructure Library Implementation		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
2	High Priority	Small	IT Infrastructure Project

Overview of Project

This project will support the implementation the industry leading IT Support process framework called IT Infrastructure Library (ITIL), and replace the current Help Desk system (CHASE) with most current version of BMC Remedy ITSM. Completing the implementation of the ITIL framework with the newest version of Remedy will enable CAISO to manage to acceptable levels of IT service management required to support the needs of the business.

Project ID Project Name

215	Physical Security Systems Modification and Enhancement (Marsh Recommendations)		
	<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3	Very Important	Small	System Change for Operational Improvement

Impacted Systems

Security Systems

Overview of Project

Folsom: This is to make the necessary security enhancements and upgrades to meet the NERC CIP requirements. This includes the development of a full EBI test environment to meet NERC CIP-007. Alhambra: This is to make the necessary security enhancements and upgrades to meet the NERC CIP requirements. This includes upgrading the CCTV to DVM platforms to match and integrate into Folsom as well as 2 PTZ on exterior of building and additional camera coverage in the Data Center.



2009-2010 Capital and Project Budget

Project ID Project Name

405 EMS Mapboard Upgrade

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	Strategic Plan Project

Impacted Systems

EMS

Strategic Objective

SO1.0 Excellence in Grid Operations

Overview of Project

The current Maul Mapboard software is out of date and not supported. We are looking for an opportunity to bring in new visualization technologies to augment the Mapboard outdated technologies.

Project ID Project Name

443 Satellite Phone Equipment Upgrade

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	IT Infrastructure Project

Impacted Systems

Communication Network

Strategic Objective

SO1.0 Excellence in Grid Operations

Overview of Project

To replace the current, aging, fixed-location satellite phones for Operations and Physical Security; the phones would be used in the event of a disaster that impacts land-based telecommunications and/or cellular based telecommunications.

Project ID Project Name

453 Remedy Licensing

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	Strategic Plan Project

Impacted Systems

C.H.A.S.E

Strategic Objective

SO3.2 Maturity in Capabilities

SO2.3 Alignment with State and Federal Priors

Overview of Project

NERC CIP requires testing to be completed in a production like environment before the change is introduced into Production. This includes the development of a test environment to meet NERC CIP-007.



2009-2010 Capital and Project Budget

Project ID Project Name

456 User Productivity Kit (UPK)

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	System Change for Operational Improvement

Impacted Systems

Oracle Financials/HR

Strategic Objective

SO3.1 People Strategies
SO3.1.C Manage ISO Employee talent

Overview of Project

Tool for training that automates the creation of computer based training, end user documentation, and testing scripts for the Oracle E-Business Suite software. With our large Oracle E-Business Suite footprint (iProcurement, iExpense, ATM, Compensation Workbench, Oracle Learning Management, iRecruitment, etc), the need to keep employees trained and up to date is becoming as important as ever. This tool will also allow for self service training of all new hires on these very important tools

Project ID Project Name

459 HPOV Test Console

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	System Change for Operational Improvement

Impacted Systems

Computer Equipment

Strategic Objective

SO3.2 Maturity in Capabilities

Overview of Project

CIP requires the ISO to have a test environment for any critical application. HP Openview is a critical application as it is responsible for monitoring CAISO's server environment end-to-end. This request is to purchase the missing components to create a test environment which will satisfy CIP compliance.

Project ID Project Name

462 Data Archive Tool

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	System Change for Operational Improvement

Impacted Systems

Computer Equipment

Strategic Objective

SO3.2 Maturity in Capabilities

Overview of Project

The ISO requires a tool to systematically move data from on-line active transactional databases to historical copies used for analysis, testing, application reruns, or to tape/compressed disk media. This software facilitates long term data storage by indexing archived data sets, manages software and platform changes, and establishes reoccurring data move schedules.



2009-2010 Capital and Project Budget

Project ID Project Name

465 Performance Based Management Toolkit

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	System Change for Operational Improvement

Impacted Systems

Computer Equipment

Overview of Project

This toolkit is made up of an array of different software modules to give the CAISO the tools required to build more a more robust testing infrastructure to find defects at a code level during the construction phases of a project.

Project ID Project Name

486 WREGIS Reporting Automation

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	System Change for Operational Improvement

Impacted Systems

OMAR

Overview of Project

Western Renewable Energy Generation Information System (WREGIS). Automation of report renewable' generation data to CEC's system for Operations Data.

Project ID Project Name

488 Netting Checker Migration

<i>Priority</i>	<i>Project Size</i>	<i>Expenditure Justification</i>
3 Very Important	Small	System Change for Operational Improvement

Impacted Systems

MV- 90 MDAS

Overview of Project

The metering netting checker application compares data between MV-90 and OMAR to ensure the data is settlement quality meter data. This application is currently written in Microsoft Access, which is not a supported standard for operational systems. The application needs to be migrated in OMAR, our in-house metering solution.